Vol 8 No 10

October 1991
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ACAR The Australian Commodore and Amiga Review

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EDITORIAL

Unfortunately *Deluxe Paint IV* didn't turn up in time for a review in this issue. A lot of people have asked if they should wait to upgrade or head out and buy some other paint program. I suggest you take a look at the demo copy floating around if you're not convinced. Deluxe Paint IV is a major upgrade. (The demo is available free from Electronic Arts - see their advertisement on p8).

A few other goodies did arrive in time. AMOS 3D and AMOS Compiler are now shipping and from our initial play with this great add-on to AMOS, it looks like we'll be seeing a lot more programs churned out by Amiga owners in the wee small hours.

I wonder how many Amiga owners today have ever dabbled in programming. No doubt the majority have avoided AmigaBASIC like the plague. It's strange to think how much home computing has changed. In the early days, everyone knew BASIC. Magazines like ours were filled with listings for people to bash in and columns, tutorials and reviews on different languages abounded. This issue we are kicking off an AmigaBASIC column once again and hopefully an AMOS column will follow soon. Perhaps we can help turn things around.

Back on the old Vic 20 everyone programmed in a mere .5K of RAM, cramming BASIC programs to fit by using the best possible combination of commands. Some learned to economise by switching to machine code. Despite having no bit-mapped graphics, one smart cookie managed to churn out *Space Invaders* using nothing more than remapped character graphics. I hear the Amiga programmers are now facing the same old problem of trying to squeeze as much as possible into 512K of RAM. It just goes to show that the more you have the more you'll use up!

Now days most of us are expert users, but few delve into the innards of the machine. Hopefully with programs like AMOS and CANDO starting to take a firm foothold amongst Amiga users, we can look forward to the good old days when more software was churned out by regular people and there were all sorts of neat programs for all kinds of odd applications. If you've written something in either of these languages, we would love to see it. ❑

Andrew Farrell

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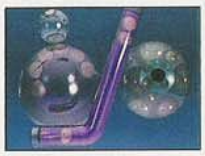

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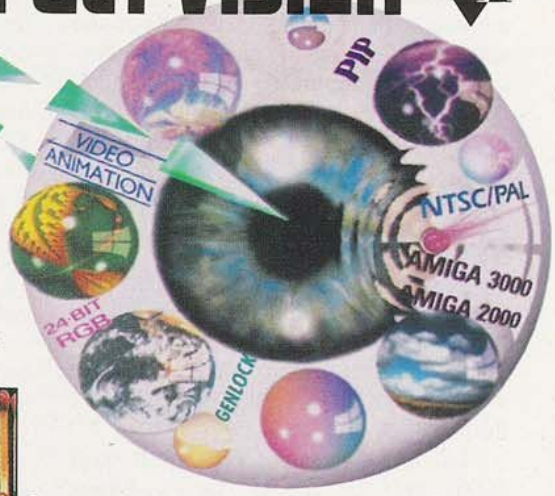

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Ram Rumbles

Computermate joins overseas software associations

Australian software distributor, Computermate Products Australia Pty. Ltd., has been accepted as a full member of both the European Leisure Software Publishers' Association and the Software Publishers' Association, of the U.S.

Computermate Products Australia is the first software distribution company in this country to gain full entry into either prestigious group. (Interestingly, Computermate is not a member of the Australian Software Distributors' Association).

According to managing director, Ray Firth, membership of both organisations now gives Computermate Products Australia, its dealers and customers access to enormous amounts of information on the international software industry.

"We view our acceptance into both organisations as a fiat for our activities here in Australia," Firth says. "It's now clear that both organisations - whose members include all the world's major software developers and marketers - consider Computermate Products Australia a responsible member of the international distribution community."

Commodore in the Media

Once again, we've been flooded with spottings. It turns out that many of our readers do own a television as well as a home computer and not a sighting of the word Amiga or Commodore is slipping through.

Lately we've seen CDTV on *Beyond 2000* and the *Today* show. Amiga animation is popping up around the place too. Here's the latest media moments from our monitors of the air waves:

Garry Oatland spotted a rusty old Amiga 1000 in an article about the Quantel Paintbox. Although the Amiga didn't rate a mention, it is clearly visible in a shot of one the artists perched on the edge of the Paintbox keyboard. There, off to the right, is the Amiga, proving yet again that many studios have a machine for those days when the $500 an hour unit is busy. Thanks for the clipping Garry.

K. Martin was busy holidaying in Mt Gambier when he found an Amiga providing tourist information at the local bureau. An AmigaBASIC program provided answers to questions and a slideshow. Anyone else spotted one of these?

John Buckingham was flipping through *Woman's Day* when a photo of actress Judy Nunn with her husband revealed a secret passion for home computing. She was at the keyboard of a C64 (it may even have been a Vic 20!). Proof that the old machines still soak up a bit of limelight every so often.

Mrs M. Chappel writes that during a recent visit to the Sydney Observatory she spotted Amigas providing "hands on" activities for the kids. No doubt the machines get a good workout with the high volume of visitors to this location. Similar displays can be found at the Power House museum.

In other spottings, Gary Raynor, creator of the famous Colourburst 24 bit display adaptor, was seen on *The Midday Show*. It's amazing any Amiga heads were awake at that time of day as surveys show the majority don't get to bed before the wee small hours. Thanks to Garry Bowden for that spotting - did you really see it yourself?

Another reader from a remote location must have had the satellite dish powered up because he also saw the same *Midday Show* from Tennant Creek! A big hello to you, Shane Fergusson, hope your broken hand is better now. ❑

UPDATE COLUMN

Hi, I'm back again! You may have noticed that last month we did a Solid Gold Top 10 for you and we at Pactronics will continue to intersperse this column with a list of new and best sellers.

Now on to the news. AMOS 3-D has now been released and, boy, it really is something! Some of the results I have already seen are absolutely astounding.

You may recall in a previous month's column I spoke to you about the Golden Image Scanner. Well, since then I have found a far superior Amiga Scanner from England called Daatascan and, although it is a bit more expensive than the Golden Image, it is a far superior product, as is the software. We are at the same time looking for other Amiga Scanners and will keep you informed.

By the time you read this you should find in the shops a great new Thalamus product called HITS 2 for the C-64. This has the following titles:

SUMMER CAMP; SNARE;
RETROGRADE; HEATSEEKER;
and CREATURES

- and is tremendous value at a retail of only $49.95. Don't miss this one!

We have also just released a range of new very well priced products ranging from $9.95 to $19.95. Some of the titles on CD are BLUE THUNDER; BATTLE SHIPS; WILLOW; AFTER BURNER; STUN RUNNER; while on Amiga we have STARRAY; AFTER BURNER; DRAGON BREED; STUN RUNNER; PACMANIA; FACE OF ICE HOCKEY; BEYOND THE ICE PALACE; and BAAL. ❑

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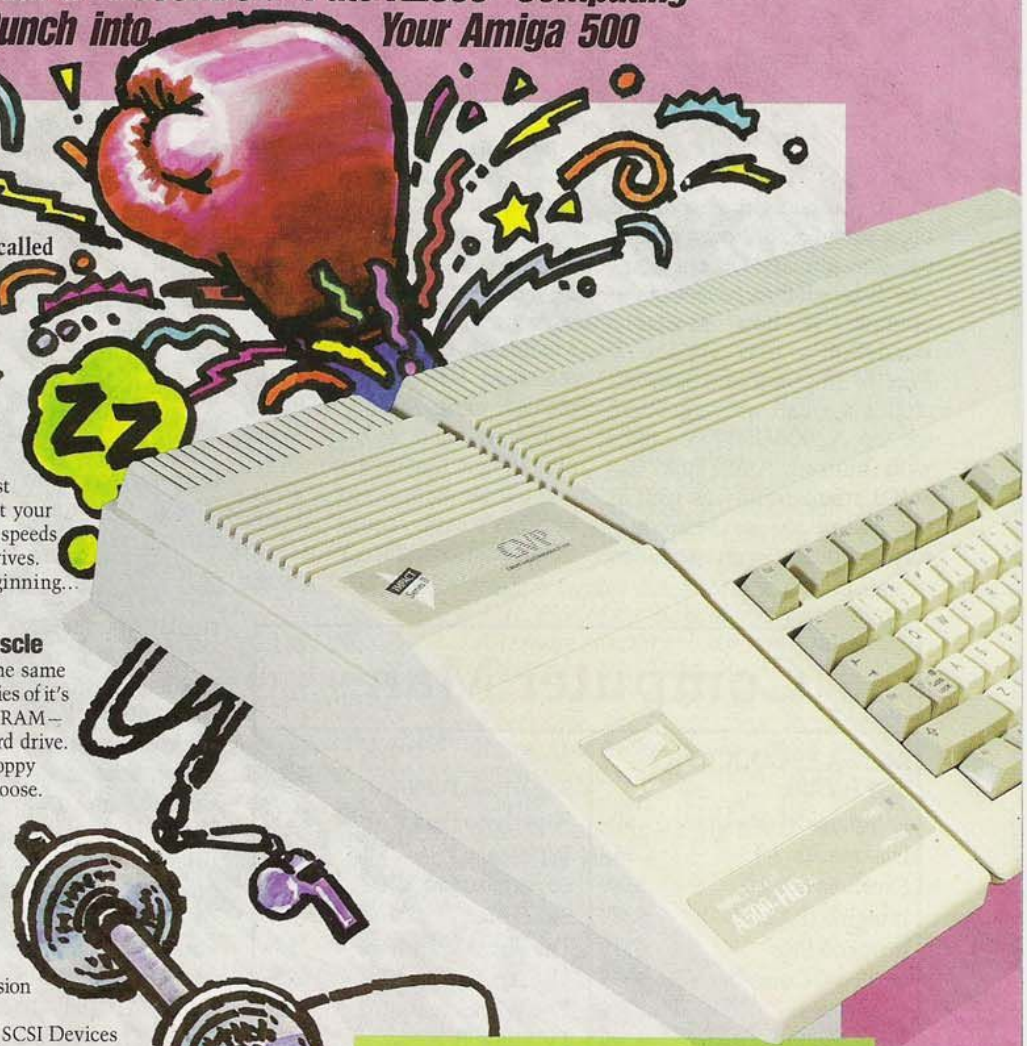

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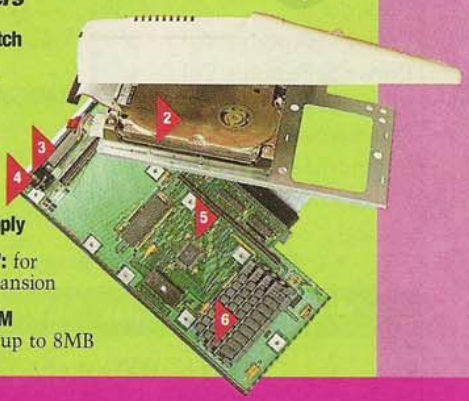

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Notepad

AMAX II Plus is now shipping

If you can get your hands on a set of 128K Mac ROMs (or you already have a pair), you'll be glad to hear a major upgrade is now available. ReadySoft's new *A-Max II Plus* is shipping and now includes a small internal board for the A2000/3000 complete with built-in AppleTalk and MIDI compatibility as well as the ability to use Macintosh format disks with standard Amiga drives.

A-Max II already supports hard drives, processor accelerators, expansion memory and Amiga peripherals. Now you can connect AppleTalk networks and peripherals during Macintosh emulation without the need for a separate AppleTalk card. Midi sequencer programs such as *Performer* and *Vision* are now not only compatible with *Amax II Plus* but don't even require an external Midi interface.

And finally, there is no longer a need for an external Macintosh disk drive in order to read, write and format Macintosh disks as *Amax-II Plus* allows Mac format disks to be used in standard Amiga drives. Registered owners of *Amax I* and *II* will be contacted with details on how to upgrade to *A-Max II Plus*. For more information call Computermate on (02) 457 8388.

Audio Engineer II

Australia's home grown audio gurus, Steve Wemyss and Peter Norman, have excelled themselves yet again with the release of Version II of their top selling audio digitiser software. At the recent World of Amiga Show in Sydney *Audio Engineer Junior* was launched and since then the software has been seriously upgraded.

There are a host of new features including; four times oversampling; pitch vs time stretch / compress; digital filtering; real time pitch bend, scrolling and zoom/telephoto. There is also auto hardware filter control, user callable DC offset compensation and on-screen calibration scale - you'll have to buy it or wait for the review next month to find out what all these high faluting terms really mean.

Screen update times have been improved and echo, mix and ramp functions optimised. There is also an improved file requester. Probably the most important feature is the addition of oversampling which vastly improves the quality of slower sample rates.

For budding DJ's there's a fancy new program included called *Audio Disk Jockey*, which enables you to preload some 180 sounds (depending on available memory) and play them instantly on command. Also included are updated versions of the CD player and playsound program which now support oversampling.

Version II software is now being supplied with all *Audio Engineer* products. Registered owners of *Audio Engineer* can update by sending their original disk together with $35 to RamScan Software Pty. Ltd., P.O. Box 267, Avondale Heights, Vic 3034.

Clip art examples

Ultra-Fonts Collection & local clip art

If you're sick of paying too much for your fonts, there's now a local company producing high quality fonts for video and desktop publishing. Ultra-Fonts are designed to solve all those occasions when you couldn't quite find that one font to fit the occasional you've so carefully captured to video.

The other good news is the price, which is a mere $25 a

Continued on p9

Computer Man

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*Note: 1Mb RAM required.

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Do you play in a band with MIDI instruments? If so, this pack is the ideal companion and the tool to really bring out your creative music genius. If you don't play in a band this could well be the start! With AlterAudio, your Amiga* takes over your instruments. Compose, sequence and add special effects to music. All you need, software, MIDI adaptor, and audio cassette tutorial are in the box ready to go!

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volume - covering packaging and postage anywhere in Australia. Volume 1 includes bar-codes, Copperplate, Crazy, Flower, Panic, Pixel, Rubberstamp and Splat. Volume 2 contains Visa, Ransom, Cyber, Ultra, Vampire and Planet. For more information write to Simon Shead at Pro-Visual, PO Box 248, Coburg, 3058.

On the subject of desktop publishing, Computa Magic are now distributing a range of very smart clip-art developed by local artists. The disks are $29.95 each and available titles include Plants 1, Animals 1, Fish 1, Birds 1 & 2 and coming soon, Australiana. Each disk is $29.95 and contains IFF images suitable for most desktop publishing programs. For details call Computa Magic on (03) 326 0133.

Internal A500 hard drives

ICD's Prima 52 and 105 Megabyte Prima Disk Drives are now available for A500. The cleverly designed interface offers low cost, high performance hard drives designed to fit 52 or 105 megabytes of storage inside an Amiga 500. Built around the newest generation of low-power, 11 millisecond 3.5 inch hard drives from Quantum, the new Prima won't take up limited desk space with bulky external boxes or cabling.

Instead, Prima is specially designed to fit inside your A500 - in place of the internal floppy drive - and includes an extra internal adapter, called the ShuffleBoard, for converting your external floppy drive for use as DF0:.

Along with being fully auto configuring, features include: autobooting from FastFile System partitions, high speed disk caching and complete support for AMAX II. This system is a complete hard drive upgrade package for any Amiga 500 system already equipped with a switching power supply, at least one megabyte of RAM and an external floppy drive.

Available in 52 and 105 megabyte formatted configurations, each Prima includes a Quantum LPS-52AT or LPS-105AT low profile 3.5 inch hard drive, a ShuffleBoard, an AdIDE-40 host adapter, cabling, printed instructions, and all mounting hardware necessary for a simple, clean, no solder installation.

For more information telephone Sigmacom on (02) 545 3383.

Microdeal Stereo Digitiser

Yet another digitiser has joined the fray from Microdeal. The latest full featured Stereo sampler for the Amiga comes

Continued on p10

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On screen you'll find a Fast fourier transform 3D display (whatever that is), a twin stereo spectrum analyzer, sample sequencer for up to 18 samples and real time and step time entry of score on sequencer.

There's also twin oscilloscopes (if it's gonna have it, it's gotta be dual!) and a powerful editor.The package includes cable and multitasks happily on any Amiga. For more information call Computermate on (02) 457 8388.

When "you're fired" means what it says

Those two words would have to be amongst the most dreaded in today's language. "You're Fired!" But what if they didn't mean getting the boot, the sack, being retrenched or being made redundant?

YOU'RE FIRED is actually the title of a video produced for the Victorian Country Fire Authority and the Melbourne Metropolitan Fire Brigade by Taylormade Films, under the auspices of Film Victoria. Taylormade Films is a new production company specialising in all aspects of production for animation and live action film/video.

In fact, *You're Fired* is the first joint production of husband and wife team John and Judy Taylor, although John has had extensive experience in animation and production (including the prestigious 1986 AFI Best Animated Film award for his short animations, *Trevor A Cat* and *Trevor Island.)*

You're Fired is an animated production 12 minutes long and presents a wide range of domestic fire hazards and fire prevention techniques in the home. Admirable though the topic is, however, the real story is the way in which the video was produced.

Produced entirely on a Commodore Amiga 2500 computer fitted with a 2630 Accelerator Card and an A2091 hard disk drive, Taylormade Films used the *DigiView Gold IV* digitising program and *Deluxe Paint III* for colouring, and a new program called *Shoot* which converted more than 4000 hand drawn images into a conventional animated production, scripting them for fully automated transfer to video.

Shoot is also a new innovation, devised by David Atkinson, a lecturer in animation at Melbourne's Swinburne Film and Television School. Not coincidentally, John Taylor is a graduate from Swinburne. As well as delivering the completed video to their client, Taylormade Films also produced full colour stills for promotional purposes.

As a first, *You're Fired* has created a considerable amount of interest amongst

Continued on p12

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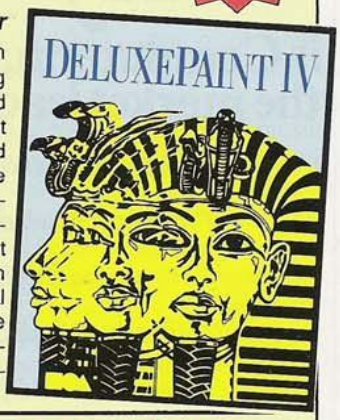

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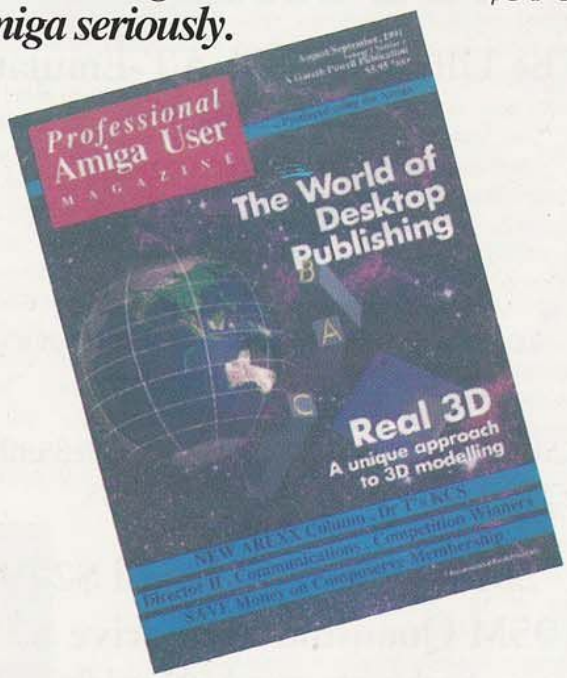

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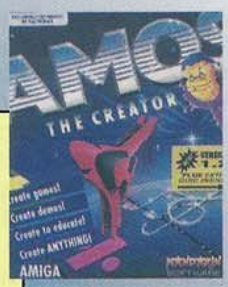
AMOS

AMOS the creator



AMOS stretches the Amiga to its limits. Now for the first time you can access the awesome power of your computer with ease. AMOS Basic is a sophisticated development language with more than 500 different commands to produce the results you want with the minimum of effort.

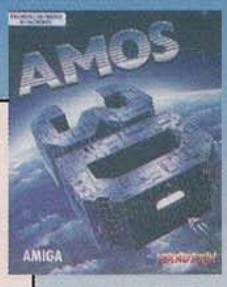
- Define and animate hardware and software sprites (bobs) with lightning speed
- Display up to eight screens at once - each with its own palette and resolution
- Scroll a screen with ease. Play Soundtracker, Sonix, GMC or even IFF samples
- Control copper list, serial port and more.

AMOS compiler

A compiled AMOS program will run at least twice as fast - sometimes 5 times faster - than your original interpreted code. AMOS Compiler also compacts your program some 60-80%. Now you can enjoy incredible speed and save disk space.

Test Case : Our AMOS Sprite editor compiles in just two minutes (14 seconds if you have a hard disk) and compacts from 147K down to 86K in 8 seconds - using Power Packer saves only another 2K.
Includes full AMOS 1.3 update with many speed improvements, new commands as well as AMOS Assembler.

AMOS 3D



Fancy creating your own version of Elite, Starglider II or Xiphos? AMOS 3D will have you on the way. With help from 30 new AMOS commands you can create complex 3D objects, stretch, rotate and resize them on the fly in your own programs.

How fast? The car racing demo (included) pumps out 16 frames per second, as fast as many commercial games, and you can go up to 26 frames per second. You can display up to 20 objects at once and mix 3D with other AMOS features like sprites, BOBs and background. "...very powerful and fantastic fun." - Amiga Computing

Pactronics

For your nearest retailer contact:
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South Australia: Refer Head Office or Victoria.
Western Australia: Pactronics, Unit 3, 257 Bannister Rd Canningvale. (09) 455 1889
Tasmania: ESP Marketing, 52 Elphinstone Rd, Mt. Stuart, Tas. (002) 1606
New Zealand: Pactronics, 55 Spencer Street, Andersons Bay, Dunedin. (03) 477 1868

animators and film production houses. Traditionally, character animation has involved the production of many, many thousands of individually hand painted scenes or "Cels" which cost between $5 and $8 in Australia, and $12 in the U.S.

With each Cel lasting for only 1/12 of a second, it doesn't take long at all for that cost to mushroom. In using the Amiga to produce *You're Fired* electronically, Taylormade Films have been able to significantly reduce those costs yet end up with a product at least as good - and many of the experts are saying much better - than hand done.

"Not only do we save on costs," said John Taylor, "we also get incredible flexibility. We're still very much at the edges of traditional character animation utilising computer technology, finding out just what we can do with the capabilities the Amiga gives us."

Drive your VCR / CD / LD / TV / HiFi from your Amiga

It's now possible to play your favourite CD tracks by selecting their names from a list on the Amiga screen. Or have your Amiga find and play your choice of segments from your favourite videos. Or you can edit your videos, and (using a genlock) overlay Amiga titles and graphics, the Amiga orchestrating it all. Or include segments of video tape and/or CD (LD) as playable fields in a database. Or wipe to and from videotape as part of a presentation - the range of possibilities is virtually endless. The package which handles the job runs in PAL and is available in Australia with full local support.

Using the MediaPhile AudioVideo Control System gives the Amiga interactive control over ANY InfraRed controlled device, be it a VCR, CD player (including Commodore's CDTV), LD player, TV set, or HiFi.

With some devices it's only possible for the Amiga to issue commands, but for others such as VCRs, MediaPhile can also return information from the device to the Amiga including current tape position. Any command provided on the manufacturer's IR remote-controller can be 'learned' by MediaPhile, and subsequently be issued by MediaPhile.

MediaPhile is a GateWay between the power of the Amiga and the resources of the AV devices mentioned above. It consists of both hardware and software - the hardware comes in several options, each the size of a printer (DB25) plug containing electronics on a PCB, with a number of cables extending from it which connect to the controlled devices.

Each interface can connect the Amiga to two devices. The software exists as two levels - the basis for MediaPhile is a 'server' consisting of a software library and associated device parameter files. This with the hardware provides the mechanism for interaction between the Amiga and the external devices. Other programs are run to provide the user interface(s), and several different interfaces can run simultaneously, more than one of which may refer to the same device, but only one command may be sent to the device at one time. For example a ShotListing Database and a Device Controller may be running simultaneously, both referring to the same VCR, but at any instant, only one program may be controlling the VCR.

Currently MediaPhile can be configured in many different ways, but essentially any MediaPhile system needs a Hardware Interface and the MediaPhile 'Server' Software. The 'Server' software includes a stand-alone device controller, MediaController, and another program, called MediaEditor, which is used to define device and system parameters, and includes a video editor with space for 130 'assemble' edits. A program for generating SMPTE time-code is also included, and MediaPhile can be configured to read SMPTE for +/-2 frame accuracy in videotape location and editing.

MediaProcessor

Also available is a much more powerful Edit Controller called MediaProcessor which allows the Edit Decision List to control multiple devices (e.g. play music from CD), trigger effects on Fairlight CVI, MX10/12 vision mixers and Newtek's Toaster, control the fade of computer-controlled genlocks, perform A/B Roll edits, and if the Amiga is genlocked to the dub, it can be simultaneously generating the titling and graphic overlays.

Any ARexx and/or AmigaDOS command can be issued, these all being triggered from times for the player entered in the EDL. Most of MediaPhile's functions may be accessed through ARexx and to utilise this facility a disk containing MediaPhile's ARexx handler, MediaManager, is available. This disc also contains examples of accessing VCRs, LDs and CDs from *AmigaVision, CanDo, UltraCard, Director, Superbase Pro* and *Microfiche Filer Plus.*

For instance, to load the location of a paused videotape frame into an activated Superbase field requires the press of the Return Key, and takes about two seconds. In fact, any program that can issue ARexx commands or perform ARexx scripts can drive devices through MediaPhile. Thus using this feature, audio and video material on tape and CDs can be logged into databases, accessed interactively through custom interfaces, or incorporated with Amiga graphics and sound as part of presentations. This disk also includes utilities to record .anim files from *Sculpt4d* and *VideoScape 3D* as single frames or short bursts, depending on the quality of the VCR.

Yet another disk of programmer's support material is available for programmers wishing to access MediaPhile functionality from Basic or C programmes. Will MediaPhile run on an Amiga A500? MediaPhile will run on any Amiga with two disk drives and 1Meg memory, but 2Meg memory and 3 to 4 Meg of hard disk space is recommended, allowing you to concentrate on editing, etc, rather than having to feed the computer. A faster processor will let the Amiga perform more complicated activites, and in some cases improve accuracy, but the standard (7MHz) speed is sufficient in almost all cases.

HTV Media is the authorized MediaPhile agent for Australia, providing both sales and FULL hardware/software support. ARexx and Graphic User Interface programming services are also available. The cost of a basic MediaPhile system comprising hardware interface for two machines (e.g. VCRs), system software, MediaController and MediaEditor, including SMPTE, is $1350. Many combinations of the hardware and software are possible, depending on current equipment and requirements. For further information ring (047) 842 305. ❑

Letters TO THE EDITOR

Do those retailers really know?

I went in search of dealers from Caloundra to Noosa who sell Amiga hardware and/or software and guess what I found? I went into a store in Maroochydore called ComputerLand. They had a big Commodore Amiga sign up on the front of the shop. I spoke to the Manager, who said they sold their last Amiga 500 last week and unless K. Mart stop selling them by the truckload for a 5% margin, they couldn't afford to sell any more!

Oh, and software - we'll order you something if you want it but we don't want to stock it unless we're selling the hardware. Why don't you have a look at the new Macs we've just got in! He then suggested Harvey Norman might have something in stock.

I walked into Harvey Norman only to find exactly the same story. Sorry - no Amigas - no profit margin. We've got some software, but we don't want to encourage it because the people buy their computer from K. Mart and then expect us to give them service and advice on them. Nothing in them for us. "So you don't sell any Amigas then?" I asked. "Nope ..." was the reply.

As I was about to walk out the door, I noticed one of the IBM clones in the store was running a CD ROM player. I asked the guy if they sell CD ROMS for the Amiga.

What? They wouldn't work with Amigas. Ha! The Amiga is too slow and would need to be able to be interfaced with it using a SCSI interface. Amigas can't do that!

I was astounded, and quietly gave the Computer/Electronics Manager an education on the facts of Amiga life. How we've grown up a little and all that. (SCSI is not only possible, it also happens to be very popular and very fast!)

What amazed me even more, I was half way out the door when I noticed a big TV screen on a pedestal hooked up to something that looked like a black sleek VCR, except it wasn't showing a movie but a computer game. Upon closer inspection I discovered a fully setup and functional CDTV and a library of CD applications. I motioned the guy over and asked him what this was.

He said it was the "future of home entertainment" - the CDTV. Great, I said. "Who makes it?"

"Dunno", he replied, "I can find out though". After about 10 minutes with this guy on the phone checking up on the CDTV (all the time saying things like "no kidding", "really?", "uhuh", "What?", "Amiga?" - and with me trying to hide a grin ten feet wide).

He came back to me and said, "Yeah, well, they're made by

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Commodore and we're planning on selling quite a few once the price comes down a little. Oh, by the way. Heres some prices on CD ROMS for the Amiga."

I didn't go to K. Mart. I was sufficiently depressed. I didn't want to walk into their store and see the usual story. You know the one. The Amiga is sitting next to the C-64. The 64 is playing a game though and the monitor is off on the Amiga. You turn the monitor on, to find a Workbench screen. You reach for the mouse to click on an icon, and they've taken the ball out of the mouse so no-one can use the demo machine.

You ask the only girl behind the counter how you get the computer working, and she suggests trying the 64 - it's a lot cheaper than that other one - and I've never really seen anyone able to get it to work.

If anyone out there is thinking of opening an Amiga dealership on the Sunshine Coast - beware! You may be inundated with mindless, witless things called customers! If you promote the potential of the machine, who knows, you may even get very rich. The next best thing they promote up here is 286 AT's with accounting software demos playing. Excitement plus!

Kevin Nugent
(posted on the National Amiga Echo)

Learning Graphics

I have just upgraded from my trusty 64 to an Amiga 500. Although I still understand little about how it works, what I have seen it do amazes me. I used to program in assembly on my 64 but now I want to learn assembly and C on my Amiga. I have heard all about copper tables, etc, it all sounds confusing. Are there some books you can recommend to me?

I hope to one day be writing demos for the Amiga as I have a keen interest in graphics as well. I have actually considered doing graphics on this computer as a career but opportunities seem so very limited. Why do the tertiary institutions concentrate on IBM machines?

Do you know of any schools or institutions that can teach me what I want to know? I find animation on the Amiga to be a very potent medium for advertising, yet there seems to be nowhere that I can study this. It seems I will either have to learn at home via my own means or do something else when I finish year 12.

Stuart Brightwell
Ararat, Vic

Commercial Productions of Australia (02 331 6255) offer courses as do the Australian Film and T.V. School. I suggest both offer courses on Amiga graphics. As for books, try one of the Abacus range, such as Amiga Graphics Inside and Out. *I would recommend you check out AMOS also.* ❑

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AMOS
3 - D & Compiler
Power Programming Plus

by Andrew Farrell

If you fancy yourself as a game designer but don't care to delve into C manuals and / or Assembly Language books, AMOS could be the answer. Now with the added power of 3D animation and graphics and a powerful compiler, AMOS offers old C64 hands and fresh Amiga owners the chance to create top quality software.

AMOS is a language, much like BASIC, with special support for many of Amiga's special abilities, unlike AmigaBASIC which tends to leave the real meaty stuff to the likes of C programmers. However, AMOS won't write the game for you - there is still a lot of code to be bashed in. If you have the patience to learn the language, you'll find yourself with a powerful tool capable of producing sophisticated programs - especially now Mandarin have released a fully fledged compiler and 3D module.

History

Amazingly enough, AMOS originated on the Atari platform, where it was a giant success. It didn't take long for another publisher to realise an Amiga version had much more potential and development began immediately on a new version to take advantage of all those hidden powers embedded in the Amiga's custom chips. However, from the day the Amiga version was announced, it was nearly a year before a finished version saw the light of day.

Since then Mandarin have updated the product several times. Locally, AMOS is supported by Pactronics (02 748 4700) who produce a semi-regular newsletter filled with tips, example programs and useful information on the latest updates.

Version 1.3

Readily available from BBS's, Pactronics or with any of the new AMOS products is version 1.3 upgrade of AMOS. New features added include better support for multitasking, support for hard disk installation, interlace mode, a new REQUEST command, and much faster graphics.

AMOS is a popular solution to that old desire all home computers owners once had of churning out home-grown software. The package seems to appeal to parents with a niggling desire to write programs that perfectly suit their children's needs. This fact is attested to by the huge range of public domain education software floating around. The biggest limitation with AMOS is your own imagination.

AMOS Compiler

The best part about AMOS was the fact you could create stand alone program's which ran with a cut down version of the full program editor called RAMOS. Unfortunately many have had problems with this package and getting your hands on a copy hasn't always been easy. The new compiler solves this problem.

It is now possible to write a full AMOS game, compile it, package and commercially sell it and no one would ever know without carefully examining the resulting machine code. Mandarin have even promised they won't tell anyone you wrote the game using AMOS until two months after the release. Apparently some software companies have expressed disinterest in signing up titles which have been developed using "Game Creators". AMOS hardly fits into this catagory, but compiled BASIC programs are treated similarly. In Australia Pactronics have distributed one titled written in AMOS called *Cricket*. It has been fairly popular, however we haven't seen any other titles in production.

The AMOS compiler churns out code which runs at a very acceptable speed. The demos floating around for AMOS 3D are proof that even uncompiled code moves at a very rapid pace, although none of the demos are really true examples of the sort of overhead game code has to deal with on top of handling the graphics. Remember too that the demos are all executing predetermined animations without any on-the-fly calculations as to where objects should be headed.

There can be no doubt that the AMOS compiler is a far more elegant solution to the problem of distributing your own programs than the previously available runtime AMOS called RAMOS. It is also considerably more secure and a good deal smaller. In the speed department you can expect an increase of two to five times - depending of course on the complexity of the code.

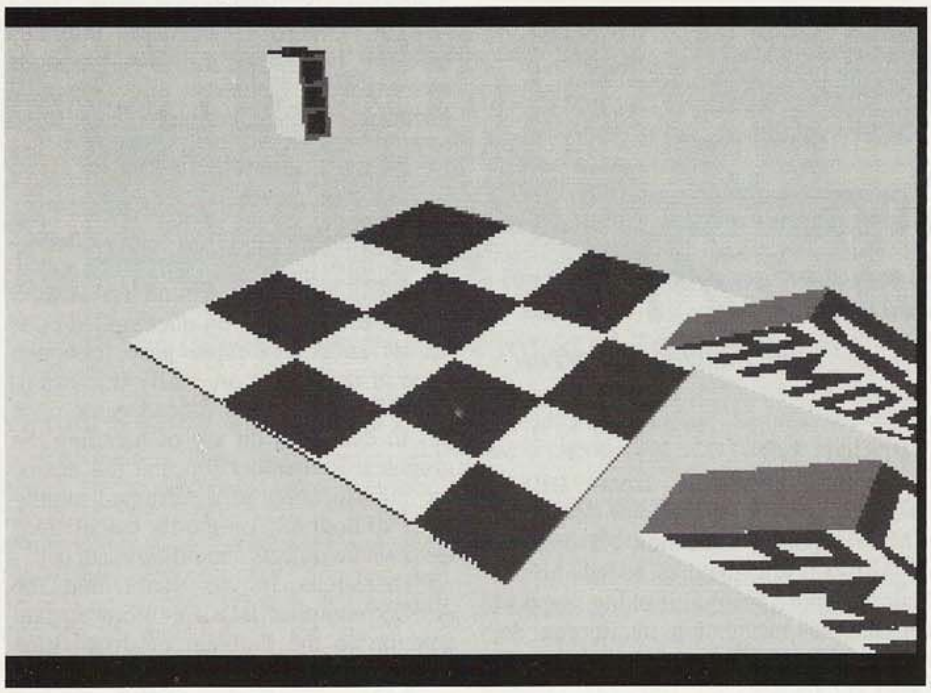
Operation

The compiler is launched from a CLI or from within AMOS in direct mode with the command COMPILE. The AMOS launched version sports a smart graphics interface making it a cinch to use.

Once running, the next step is to decide whether to compile direct to disk or RAM. This feature is a big help to Amiga owners with 512K of RAM. Once the job is complete, you have the option to compact the code. This process seriously reduces the resulting file's size and is as efficient as most of the best compactors available. The down side of this is that the program takes a little longer to run as it must first decompact.

Conclusions

Do you need the AMOS Compiler? If you're already an AMOS owner who writes a reasonable amount of software, the answer is yes. Even if you don't already own AMOS, it could be time to take another look at a product which may well stand up to commercial software production.



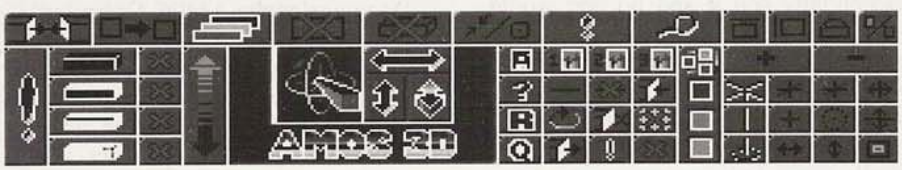
AMOS 3D

Generating high speed 3D animation in a game environment normally relies on a set of standard routines for rendering objects. Ideally, this graphics engine must be able to handle many calculations based on the camera position. Each object must be rendered by the blitter chip. For best rendering times, the engine would need to take into account objects which are in front of others.

If you could create such an engine and make available an editor for creating shapes to be animated, you have AMOS 3D. The whole package was created by Voodoo Software, the authors of the amazing 3D game *Xiphos*.

What you have your hands on is one of the most impressive Amiga programs you're likely to see, with the potential to build fantastic games of your own. Combined with AMOS, it is possible to create an entire 3D universe with incredible fast animation frame rates, smooth camera paths and smart collision detection.

AMOS 3D is actually two modules. AMOS itself receives a shot in the arm with an extension of some 30 commands to allow you to display objects and handle your 3D universe. However, the most important add-on is the object editor.



Creating objects

The editor is called OM and it is a functional gadget driven interface for creating objects using simple base shapes which can be combined and modified. It all looks very daunting to begin with, however patience with the interface and some time spent soaking up the tutorials will make all the difference. Once you're up and running, OM is fairly straightforward, although some careful planning is advantageous if you're planning anything complex.

Your designs must retain an angular sort of look as the shapes can only be modified in certain ways. Points can be dragged and you can expand or shrink a face and rotate or scale an object all you like.

To further enhance these simple solid objects, AMOS 3D allows you to add surface detail or even create holes in objects. Using up to four colours, you can create an image that is mapped on an object surface. OM automatically distorts the image to fit the surface.

This simple facility enables more complex looking objects to be created without exceeding the limitations of the object editor or seriously slowing down animation speed. Every image you create is given a rating which tells you exactly what impact it will have on the speed of 3D rendering.

Conclusions

Judging by the demonstrations included with the package and the brief play I managed to have with the package, AMOS 3D looks like a must have for any AMOS owner planning on playing with animation or creating good 3D games. I even had a few *Videoscape* fans drooling over the demo disk, so it looks like AMOS 3D will attract some followers from the dedicated animators department. Overall, a very impressive, powerful add-on to AMOS that opens up the potential for programmers beyond anything ever before. ❑

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AMOS Td Commands

Displaying Objects

Td SCREEN HEIGHT n	Set the screen height for 3D drawing
Td REDRAW	Draw all currently visible 3D objects
Td CLS	Clear the 3D display area quickly

Loading and removing objects

Td DIR folder$	Set the object directory name
Td LOAD file$	Load the object *file$*
Td CLEAR ALL	Remove any loaded objects
Td KEEP ON	Make objects resident
Td KEEO OFF	Clear objects each run

Invoking objects

Td OBJECT n,name$,x,y,z,A,B,C	Create an object instance based on *name$*
Td KILL n	Remove an object

Moving objects

Td MOVE n,x,y,z	Move absolute
Td MOVE REL n,dx,dy,dz	Move relative
Td MOVE X/Y/Z n,string$	Apply a movement string
Td FORWARD n,d	Move an object forwards

Reading an object's position

=Td POSITION X/Y/Z(n)	Return an object's X,Y or Z in world co-ordinates

Changing an object's attitude

Td ANGLE n,A,B,C	Set an object's attitude
Td ANGEL REL n,dA,dB,dC	Rotate an object relative to its current attitude
Td ANGLKE A/B/C n,angle$	Apply a rotation string
Td FACE n1,n2	Point n1 at n2
Td FACE n,x,y,z	Point n at (x,y,z) in world co-ordinates

Reading an object's attitude

=Td ATTITUDE A/B/C(n)	Return attitude angle A,B or C

Bearing and range

=Td BEARING A/B/R(n1,n2)	Compute bearing and range between n1and n2
=Td BEARING A/B/R(n,x,y,z)	Compute bearing and range between n and (x,y,z)
=Td RANMGE(n1,n2)	Compute distance between n1 and n2
=Td BEARING A/B/R	Return last calculated A,B or R

Converting betwen co-ordinate systems

=Td SCREEN X/Y(x,y,z)	Convert (x,y,z) in word co-ordinates to screen co-ordinates
=Td SCREEN X/Y	Return last calculated screen co-ordinates
=Td WORLD X/Y/Z(n,x,y,z)	Convert (x,y,z) in local co-ordinates into world co-ordinates
=Td WORLD X/Y/Z	Return last calculated world co-ordinates
=Td VIEW X/Y/Z(n,x,y,z)	Convert (x,y,z) in world co-ordinates to local co-ordinates
=Td VIEW X/Y/Z	Return last calculated local co-ordinates

Checking an object's visibility

=Td VISIBIE(n)	Returns 1 if an object is visible or 0 if not

Collision detection and zones

Td SET ZONE n,zone,x,y,z,r	Define a zone
Td DELETE ZONE n,zn	Remove a defined zone
=Td COLLIDE(n1,n2)	Returns n2 if collision occured, -1 otherwise
=Td COLLIDE(n)	Returns number of collided object, -1 no collision
=Td ZONE X/Y/Z/R(n,z)	Returns the centre co-ordinates and radius of a zone

Animation

Td ANIM REL n,p,x,y,z,finished_fkag	Apply a relative change to a point in local co-ordinates
Td ANIM n,p,x,y,z,finished_flag	Sets a point's position in local co-ordinates
=Td ANIM POINT X/Y/Z(n,pn)	Return the position of a point *pn* of object *n* in local co-ordinates

Surface animation

Td SURFACE name1,b1,f1 to n2,b2,f2,rt	Copy a surface detail
Td SURFACE POINTS p0,p1,p2,p3	Set surface detail anchor points
Td SURFACE POINTS OFF	Restore original anchor points

Define a Background

Td BACKGROUND	source,x1,y1,width,height to x2,y2 [,plane]

Miscellaneous

Td QUIT	Release all 3D memory
=Td ADVANCED n	Returns the address of an object's structure

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How to get your Amiga graphics onto videotape, without knowing any technical stuff or spending a zillion dollars!

Put your Amiga graphics on Video ... on the cheap

by Peter Friend

You've spent the last two years designing the world's most amazing computer animation. You finish it and then realise no-one can watch it except on an Amiga. Wouldn't it be great if you could record it onto an ordinary videotape and show it on any VCR (video cassette recorder)?

And Aunty Joan wants titles for her video of Brian and Raylene's wedding. You can easily create the titles on your Amiga, but how will you get them onto a videotape?

Connecting

Obviously, you will need at least your Amiga and a VCR. If you're lucky, that might be all you need.

On the back of your Amiga (unless it's a very early A2000) is a lonely little plug labelled MONO VIDEO, which you've probably never used. It provides a composite video signal which is compatible with a VCR, but unfortunately it's monochrome only.

If you only need black and white, great, but you'll probably want colour. The cheapest way to get it is with an Amiga A520 RF modulator, which provides both colour composite video and RF output. If you bought your Amiga without a monitor, you may already own an A520; you're probably using it to connect your Amiga and your TV. But if you bought your Amiga and monitor together, you probably didn't get an A520 with them.

Your Commodore dealer will sell you one for about $100, or you may be able to buy a second-hand one from someone who recently bought a monitor and now doesn't need their A520 any more.

There are two ways to connect an A520 to a VCR. The simplest is a variation on connecting an A520 to a TV.

Method 1

Connect the A520 to the Amiga normally, but instead of plugging the other end of the RF cable into the aerial socket of the TV, plug it into the RF IN socket on the VCR. The VCR will now see the Amiga's RF signal as if it was a TV station. Set up the TV to display the signal from the VCR, the same way you do when you watch a video. Turn the Amiga on and set the VCR to a spare channel. Tune the VCR channel until a clear Amiga screen appears on the TV, just as if you were tuning in to a new TV channel. If you only get static, check whether your VCR channel is set to UHF or VHF, (you'll probably find around UHF 28 is best) and try flicking the L/H switch next to the RF OUT socket on the A520.

Eventually, you should have a picture of the same quality as you get with the TV and A520 connected directly. The important difference is that now the picture is being fed through the VCR, so you can record any Amiga screens, just like recording a TV program.

The picture signal from the A520's RF OUT port is fairly good, but not great, because first the RF modulator in the A520 converted it into RF format, and then the VCR reconverted it back into composite video again. You can get a clearer picture with the other method of connecting the A520 and VCR, which uses separate composite video and audio signals and two cables.

Method 2

On the back of the VCR (unless it's really old and horrible) will be two plugs labelled VIDEO IN and AUDIO IN or something similar. Connect a cable from the VIDEO OUT plug of the A520 (or the Amiga MONO VIDEO plug if you only want monochrome) to the VIDEO IN plug on the VCR.

Sound is slightly more complicated, because the Amiga produces stereo sound and so has two AUDIO OUT plugs. Unless you're lucky enough to have a stereo VCR, you need to combine both Amiga sound signals into one. You can use the little splitter cable which comes with the A520. Plug it into the Amiga normally, but connect the other end (which normally plugs into the AUDIO IN plug on the A520) into another cable leading to the AUDIO IN plug on the VCR.

Now you need to tell the VCR to get its input from the VIDEO IN and AUDIO IN plugs instead of the RF IN plug. As the VIDEO IN and AUDIO IN plugs are most commonly used to connect video cameras, the switch to change this is usually called something like TV/CAMERA INPUT, but check your VCR manual. With the switch set to CAMERA, the Amiga screen should appear on the TV, looking at least slightly clearer than before.

Graphic considerations

Even now, the picture won't be nearly as good as on an RGB monitor connected directly to an Amiga. Normal VCRs and TVs are only designed to show TV pictures, not computer graphics. Although they can display an effectively infinite number of colours (TV signals are analog, not digital), they have lower horizontal resolution than an Amiga.

This affects what you can and can't show on your video. Many screens that look great on an RGB monitor will look terrible on a TV. Some pointers are:

- Eighty column text is too small

and blurry to read on a TV, so make all your text in nice big letters.

◆ Avoid lines only one pixel wide. Depending on their colour and the colour of the background, very thin lines can cause ugly colour smearing.

◆ Avoid very bright colours, especially reds, as these also tend to cause smearing on screen. Try to keep your colour values below 12 on the 0-15 RGB colour scale.

◆ When in doubt, display the screen on the TV and see how it looks. Even if you have an RGB monitor, do your final colour editing of your screens using the TV.

Directing

You are now ready to make video history. The simple stuff is easy. To create a title for Aunty Joan's video, just load your favourite art program, draw a pretty screen that says "Brian & Raylene's Wedding" and press the record button on the VCR.

But then things get more complicated. Aunty Joan will be so impressed that she'll want a five minute title sequence listing all the guests, the presents, and the recipe for the wedding cake. No matter what kind of video you want to produce, two problems will nearly always arise.

Moving pictures

Firstly, eventually you want to do more than just show static screens. Maybe you want titles scrolling up the screen like they do on TV program credits, or maybe you want pictures to dissolve into each other, or slide in from the side of the screen, or fade from and to a blank screen. Or maybe you want to show Mickey Mouse and Bart Simpson having a custard pie fight. What about synchronising music and sound effects with the pictures? You need some sort of video presentation software.

Packages like *AmigaVision, Deluxe Video, Elan Performer, Lights Camera Action* (and many others) are designed to present sequences of screens or animations with a variety of wipes, fades, and dissolves between each one. Each package varies considerably in its features and flexibility, so it's worth doing some comparisons before buying. Also consider languages with good graphics and sound handling; you could write your own simple video presentation software using something like *AMOS* for example.

Editing

As your video sequence gets longer and longer, you will eventually run out of memory. To give an extreme case, if you write an animation that displays fifty different screens per second, and each of those screens has 32 colours and 320x200 resolution, a mere second of animation will require around two megabytes of memory.

So you need to stop recording so you can load the next animation sequence. And that brings us to the second problem: the dreaded Editing Glitch.

It's a problem suffered by all home video makers; those little bursts of static and distortion between each sequence recorded. They have two causes.

VHS VCRs always rewind the tape slightly before starting to record. In most VCRs, the head which erases any existing recording is several centimetres from the recording drum. So those several centimetres of tape are not erased and therefore get the new recording on top of the existing recording. When that tape is played, the short double-recorded section will look distorted.

VCRs with 'flying erase heads' have

Continued on p24

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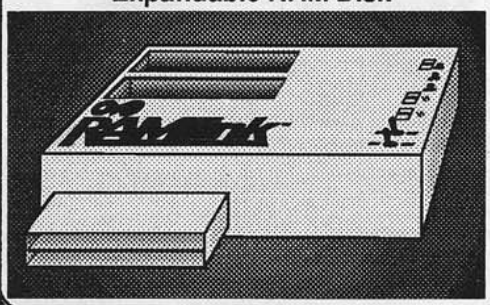

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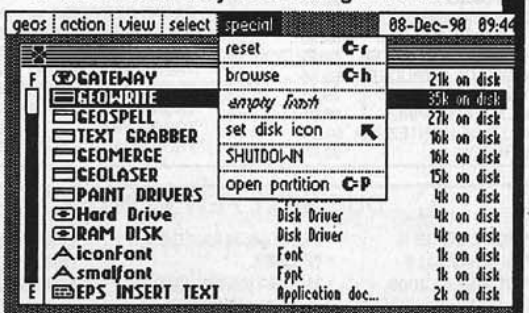

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their erase heads on the rotating drum which also holds the play and record heads, and so don't suffer from this problem. But VCRs with this feature are relatively expensive and uncommon.

Editing glitches are also caused by the physical layout of the tape. Picture data on video tape is recorded on millions of angled parallel rows. These rows (along with a control track and a sound track) are written whenever the tape is recorded, without checking for the location of any existing data. So when rerecording starts, its rows will be randomly slightly out of synchronisation with any existing rows.

When the tape is played later, the VCR finds that the new data isn't in synchronisation with the previous data, and there is a brief glitch while it resynchronises itself to the new data. A hardware feature called 'insert editing' is now available which gets around this problem (by examining the tape for existing data before new recording). VCRs with this feature often have flying erase heads as well. Naturally, they cost more than ordinary VCRs.

The best way to avoid editing glitches on a normal VCR is to not press the STOP button when recording. Use the PAUSE button instead. The tape stays where it is and in synchronisation, and always gets erased before being recorded on. Remember that VCRs only stay in pause mode for a couple of minutes, to avoid damaging the tape which is being constantly rubbed by the rotating recording drum.

So plan your entire video before any recording. Design your video sequences and test them all individually on the TV. Then get all your data disks ready, and record the entire video at once, pressing PAUSE between each sequence and quickly loading the data for the next sequence. The completed video should be glitch-free and professional looking.

Potential

This article has only examined the most basic principles of video making on the cheap. If you want to get serious about video production, there are many possibilities you may wish to investigate. Sadly, they all cost money, lots of money.

Expanding your Amiga's memory and power is a good start. A nine megabyte Amiga with a 68030 co-processor would be ideal, if you can afford it. I wish I could.

Would you like to have your Amiga graphics appear on top of live action, like they do in the titles of many TV programs? You need a genlock and either a video camera or another VCR. Genlocks combine video from your Amiga and an external video source (usually a video camera or VCR) and output the result to a VCR. Genlocks are available from around $500 and upwards, and the more expensive ones come with a huge variety of features.

If you want to load a live video image onto an Amiga screen however, you need a video digitiser. Most digitisers get their input from still shots from a video camera, but there are now a few which can take 'snap shots' from moving video images. Prices, and the quality of the digitised images, vary enormously.

If you're considering buying any sort of video hardware from America, be very careful. Some video hardware is designed only for the American NTSC TV system, and will not work on the PAL system that Australia and New Zealand use. However, some hardware can operate in NTSC or PAL mode, and other hardware is available in separate NTSC or PAL models. Be careful that you know what you're buying.

A second VCR may also help. As mentioned above, a VCR with flying erase heads and insert editing makes editing much smoother. There is a huge variety of other editing features also available on up-market VCRs, some of which cost several thousand dollars.

If you still have any money left, there are time base correctors, edit consoles, camcorders, audio-sync control units, and several thousand other accessories, which will allow you to remake *Star Wars* in your own living room.

But personally, I'm quite content making titles for Aunty Joan's wedding videos. ❑

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Structured drawing has been the domain of desktop publishers and CAD people. Now anyone can manipulate carefully designed objects with DesignWorks. But is it safe and does it come in pink? *George Kimpton* writes ...

DesignWorks
Structured painting for P-platers

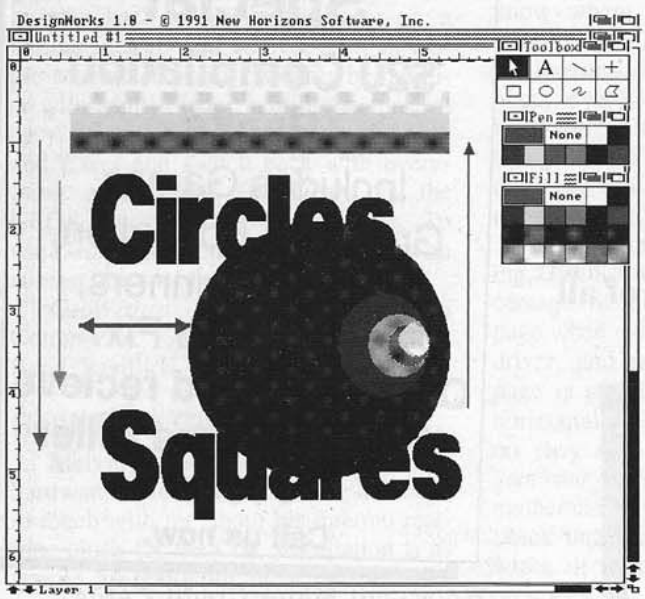
In those dark days long ago when the Amiga 1000 and the first *Deluxe Paint* were kings, things were simple. There were only a couple of paint programs, - Aegis *Images* was one and then came *Express Paint* followed by others. Around that time Aegis *Draw* introduced us to CAD and *Videoscape* opened up the world of animation and 3D.

Since then we have seen a veritable parade of paint programs including ray tracing 3D and animation programs of amazing sophistication busily generating images which depart from reality.

The art we are capable of producing on the Amiga today blurs the old boundaries between imagination and real life. The world is our oyster as they say and the sky and our imagination are the only limits.

So why another paint program? *DesignWorks* is different. It handles painting objects in a structured CAD-like manner, without making the whole issue too complex to use.

At first glance *Design Works* is nothing special even though those glossy ads would suggest it is. It is in fact a fairly basic program with some serious shortcomings and some very useful facilities so let's have a closer look at it.



System requirements

DesignWorks comes as a single unprotected disk with a fairly comprehensive manual. There are no tutorials but to anyone reasonably familiar with paint programs and anxious to get started, *DesignWorks* is user friendly. System requirements are for 512k of memory, a single drive and Workbench 1.2 or later (Workbench 2.0 compatible). Obviously a hard drive, extra memory and another floppy speed things up.

The manual is in two parts, the first describing the functions of the selection of tools in the toolbox along with the various menu controls. The second is a reference section and covers macros and the interfacing with AREXX. The macros are made up of AREXX commands listed in the reference section. Not bad as manuals go but you will have to search around a bit for the odd bits of knowledge that make life easier.

Drawing tools and format

Your mode of operation defaults to medium-res. This cannot be changed in the program, but you can alter it by changing the TOOL Types from Workbench or by running through CLI.

The operating format is claimed to be structural drawing while the picture format handling is IFF as would be expected to allow interchange with other programs. Certainly the drawing and manipulation of polygons etc. is the same as in structural drawing programs such as Professional Draw but there is no way either *Professional Page* or *Draw* will accept *DesignWorks* pictures as anything other than bit mapped.

Drawing tools are pretty basic including straight lines, rectangles, circles, freehand and polygons. Any object drawn (even a circle) can be converted to a polygon and the shape then modified by adding or subtracting and moving points.

These polygon shapes can then be smoothed to create gently curving surfaces. We are told this is by applying Bezier Curve mathematics. If only all Bezier Curves were this easy. You can unsmooth if you wish and this is certainly necessary for inserting or removing points.

Multilayer drawing and overlay

Another good feature is the ability to create objects on different layers as in *Aegis Draw* and others. With this facility it is possible to draw a plan layout for say a house with the land boundaries and

contours on one layer. The next layer could be the buildings and structures with the third, paths and driveway and so on.

Other layers could be plumbing and draining services or garden construction details with a further being a plant layout. These layers can then be overlaid and shuffled to give the required picture with printouts containing only the necessary layers or information. Provision is made for dimensioning and labelling of items.

Editing and manipulating objects

Objects can be selected, cut or copied and then pasted or transferred between layers as required. Grouping of objects is allowed to simplify movement of more than one at a time and any object can be locked to avoid accidental changes. Backgrounds of each layer can be made transparent or opaque to suit requirements. It is also possible to align objects within the layers either to a grid or to specific edges or centres.

It is possible to rotate or scale an object or flip that selected object horizontally or vertically. Using a different scale in the requester on each axis allows changing of the aspect ratio. The Rotate falls down though in that it only allows for 90 degree turns. There seems to be no way for small angles of rotation, if there is I can't find it.

A zoom facility allows you to either double the size of the viewed area or to progressively reduce it by halves down to one thirty second of the original. This can be very useful for fine work with the ability to control both the height and width of the pen tip from one to ten points thick.

An adjunct to this is the ability to adjust the drawing size up to "100 * 100 inches" for printouts (pardon the Imperial measurements but that is what the book says). This gives you the ability to print some pretty BIG pictures.

Colour scheme and palettes

DesignWorks is said to operate in the 4096 colour HAM mode but selection of colours can be confusing and awkward. The displayed pen colour palette is only eight colours, which are the screen colours, plus the actual selected pen colour. These colours are all adjustable using sliders but it is not the easy method used in *DigiPaint* and each time you want to select a different pen colour you have to go back to the sliders.

There are eight basic colours for colour flooding of drawn objects with six of the eight again being available in addition as either half bright or a lower saturation. The basic colours are the same ones used for the screen.

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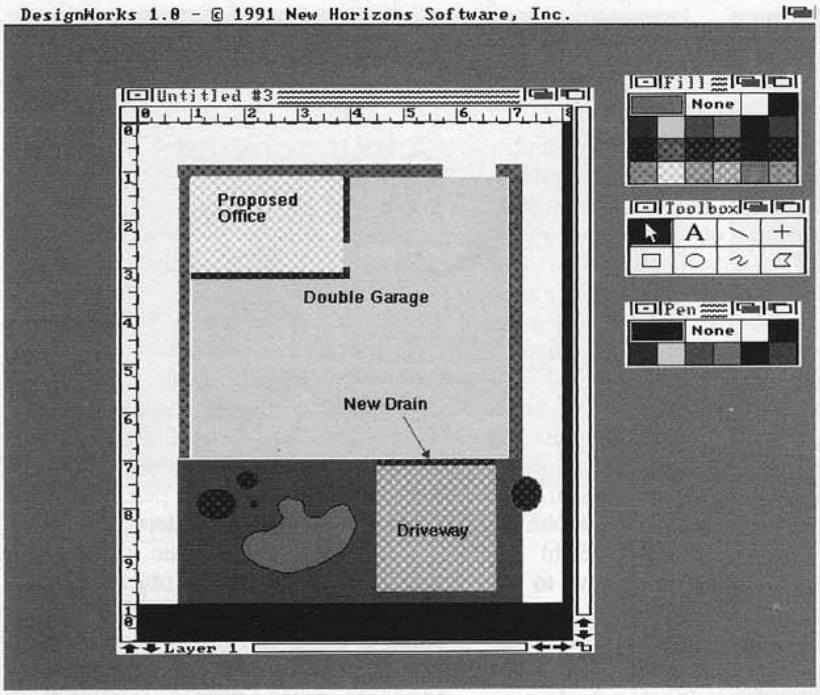

In addition there are 25 fill patterns supplied and provision is made to create your own patterns. In the pattern adjuster there is also provision for colour changes of the actual pattern. Colour selection methods and palette handling definitely need to be improved in the next version.

Text entry and editing

Text entry is by the usual method of placing the text cursor at the appropriate spot and typing. Three standard fonts, Courier 12, Helvetica 12 and Times 12, are available but it is possible to select and use any other Amiga fonts. Viewing of a sample of the selected font is possible if desired.

Once the text is complete it can be treated like an object for moving, flipping or rotating. Scaling is not possible. The manual seems to suggest that it is possible to select sections of text with the selection tool. This is not so and only applies for the completed text block which becomes an object as mentioned above.

Editing is fairly standard by highlighting the subject text and the delete key can be used as a hotkey for deleting both text and objects. A good range of hotkeys are available.

Style provides the usual formats of bold, italic and underlined. Alignment provides left, right or centre alignment but not justification and spacing adjusts the lines to suit.

Importing IFF pictures

As part of document preparation it is possible to import IFF pictures but herein lies the conundrum. Just what happens to the pictures colour palette if it comes from another paint program and what colours will be printed out if you have a colour printer.

I imported a 32 grey shade digitised picture which promptly ended up as a mix of black, blue and green on the screen. I could have gone back to the pen or screen palette and adjusted the colours individually with some difficulty but I couldn't be sure what I would get on printout.

I could also trust to luck and set the print controls to 4096 colours hoping the original grey scale would be reproduced. Without a colour printer I don't know what happens and the manual doesn't say.

Another disturbing thing about importing IFF pics is that while you can scale them easily you don't seem to be able to grab and move them from the centre of the page. Sure you can cut and paste them but how do you tell it where to paste it. You can't, it still ends up in the middle of the screen and can't be moved except by the cursor keys which can be painfully slow.

Printing facilities

With printing you are allowed to first of all set up the page format, whether portrait or landscape format, the page size, whether to reduce or enlarge the picture, adjust aspect and finally to control the gaps between the pages.

The actual print requester gives control over graphic quality, which pages to print, colour availability (4096, 64 or 8), print density and finally how many copies and whether to collate those copies where multiple page documents are being printed.

Conclusions

DesignWorks will not set the world on fire, but it could be a useful adjunct to your other paint programs. The availability and flexibility of the layers is quite useful particularly for structural work. If you have *ProWrite* it certainly is handy being able to import *DesignWorks* images so well.

The ability to convert circles and other objects to polygons made me wish it was a true structural drawing program or at least allowed the importing or saving in structural format. If this were so you could import *Professional Draw* clips and modify them in a way you can't in *ProDraw* itself.

The smoothing with Bezier curves is outstanding and again if we could only use it on *PDraw* clips instead of trying to use Bezier in *PDraw*. The collating feature and the ability to produce enormous printouts is certainly a plus. Against it is the difficulty in controlling the imported IFF pics and the palettes. The limitations of only 90 degree rotations is also a negative. Generally a disappointing but useful program.

Finally there are some mysteries. I could not find any reference to those mysterious Ikons (Drop_Shadow, Small_Logo and Parabola) in the manual nor could I get them to do anything.

No mention either of what the system mover is - although it is self evident when you click on it. ❑

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Hello to Dave Such of Quirindi

Ross Randall of Penrith

and . . . Fred Hunter from St. Kilda South

Bula! Vinaka!

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Amiga HINTS & TIPS

What is a printer driver?

Well may you ask. The Amiga is quite advanced in its treatment of printers, as it globally interprets any information sent to the serial or parallel port (as defined in Preferences) for the printer and translates it into printer-understandable form.

The problem has been that there is no standard language for controlling printers - the centronics (parallel) port on the back of your computer only addresses the electronic connection between the computer and the printer. Software control is quite different: at the text-only level, it's fairly simple - you send text (ASCII) and the printer prints the characters.

But when you get to double height, superscript and colour it gets complex. This is where printer drivers come in, interpreting the data sent to the port by your wordprocessor, so that the printer can understand. Thus you need to find a printer driver which gets the most out of your printer, and that may even require a custom-written one - if you've got a very rare printer.

But there are tricks which printer drivers can use to fake what a printer can't do. For example, your printer may not be able to print the cents symbol; but your printer driver may get around this by printing the letter c, backspacing and then printing a vertical bar through it.

Using pattern-matching

When you're in the CLI and you're interested in copying a particular file and its icon to somewhere, some might do two copy commands, while others might just do a single command and forget about the icon file altogether. Later they wonder where the file has gone when looking for it on Workbench!

This is a waste of effort. Say the file is called DOC and it has an info file called, naturallu, DOC.info - all icon files are the name of the associated file with suffix .info attached. So to copy them both from DF1: to DF2: just enter:

```
COPY DF1:DOC#? TO DF2:
```

The #? attached to DOC tells the CLI it should find any files beginning with the letters DOC and copy them across. That means it would also copy a file called DOCTOR if there happened to be one in DF1:. But it also means that both the file and its icon are copied at the same time to the same place.

Alias for format quick

I've set up a couple of useful ALIASes in my SHELL-STARTUP file in the S: directory, where the system looks for information whenever you use the Shell. This is for fast formatting of a floppy:

```
alias F0 format drive df0: name Blank noicons
alias F0Q format drive df0: name Blank noicons Quick
alias F1 format drive df1: name Blank noicons
alias F1Q format drive df1: name Blank noicons Quick
```

As you can see, instead of typing "format drive df0: name Blank noicons Quick" each time I want to fast-format a disk in DF0:, I just enter F0Q, which is easy to remember, and a lot shorter.

What is multi-tasking?

They have just begun to discover the joys of multi-tasking in the world of IBM and Mac, but it'll take them a while to get up to speed since to devise a program that handles multi-tasking well is a different story to running one which understands only how to run by itself in a computer's memory - so there'll have to be some re-writing - and a bit of user re-education, since using multi-tasking is an acquired skill, which

Continued on p34

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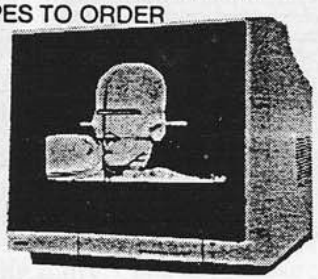

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even many Amiga users have not developed.

Multi-tasking does give you a bunch of computers for the price of one, since most programs spend most of the time waiting around for input, be it a human finger twitching, a modem going "ack" or whatever. For example while you laboriously peck at the keyboard, the computer is yawning and wondering when it's going to be asked to do something most of the time. So while it's waiting, it could well be downloading a program from a bulletin board, and printing out a file at the same time, with virtually no

Continued on p36

Some IFF formats:

ILBM	Interleaved BitMap
FTXT	Formatted text
PICS	QuickDraw picture
SMUS	Simple Musical Score
ANIM	Cel Animation Form (*VideoScape 3D*)
8SVX	8-bit Sampled Voice
ACBM	Amiga Contiguous BitMap
AIFF	Apple Audio Samples
ANBM	Animated BitMap Form
BANK	MIDI system-exclusive data dump
HEAD	Idea processor Form (Flow Idea Processor)
MIDI	MIDI Form
PGTB	ProGram TraceBack diagnostic dump image (not IFF)
SYTH	SoundQuest Master Librarian format for MIDI
WORD	Word processing form used by *ProWrite*
PDEF	*Deluxe Print* page definition
RGB4	4 bit RGB pixel information
SHAK	Used by *Shakespeare* (private)
VDEO	Used by *Deluxe Video*
SAMP	Sound Sample Form
TDDD	Used by *Turbo Silver* (ray tracing)
SC3D	Used by *Sculpt-3D*
TEXT	Plain unformatted ASCII text
FNTR	Raster font
FNTV	Vector font
GSCR	General-use musical score
USCR	Uhuru Sound Software musical score
UVOX	Uhuru Sound Software Macintosh voice

A file starting with "LIST" is a more complex type of IFF file, containing perhaps a group of pictures or a whole multimedia setup. ❑

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loss of speed whatsoever. So if you haven't already, explore the world of multi-tasking.

Convert

On Fish 451, this utility converts any image to and from 24-bit, so if you're working with 24-bit images, this is a utility you must have. It converts to "plain vanilla" Commodore format so use it for importing into *PPage*, etc. *Sculpt Animate 4D* outputs 3 files (red, green, & blue) and Convert will create a single 24-bit image out of it. Thanks to Graeme Whittle for this info.

Logging on to Bix

Many people will know that BIX is the "Byte Information Exchange", a global on-line information resource/exchange for computer users of all stripes, set up by the US magazine, *Byte*. Although *Byte* has the unfortunate habit of practically ignoring the Amiga in its paper mag, its July newsletter, however, tells a different tale about Amiga activity - the top 10 Bix conferences of all kinds (ie, areas of interest and exchange in terms of messages, etc) include three Amiga areas, including the most popular of all, "amiga.user"; the other Amiga conferences in the top 10 are amiga.dev, and amiga.sw.

BIX is also designing a GUI (graphic user interface - ie such as we've had for years on the Amiga, and such as the IBMs are just now getting into with Windows), and to develop it they are using Amigas!

If you want to log on to BIX and join up, do the following: Set your Communications program to 7E1 (rather than 8N1, for example, which is the usual setup for communications); call "atdt 2903400" which will get you into British Tymnet; when asked for a terminal identifier try "a" (recommended) - don't ask me what it means. Then when you see "please log in", enter: BIX When the next requestor comes up (user name), enter: NEW USER then credit card number and follow instructions.

You can also call 008 032064 for information - TYMNET's Hotline. Or call the BIX Help line for errors on 0011 1 603 924 7681 (US number) - I got an affable lady who seemed to know what she was talking about, and could answer my questions about BIX.

IFF format files

Most have heard of IFF files, the Interchange File Format first devised by Electronic Arts and adopted by Commodore for Amiga files. Originally designed to make file exchange between programs on the Amiga more simple than on other computers, it has worked fairly well. However, it has also blown out of proportion as particular software houses try to make their format a standard.

If you do a "hex type" of a file in the CLI [ie, enter 1> type filename opt h], hit the Space Bar to stop the scrolling and you'll see the hexadecimal version of the file on the left, and the ASCII (text) version on the right. If you see "FORM" on the top of the right side, you've got an IFF file. A little further to the right is the four character "name" of the IFF FORM type, as listed below. ❑

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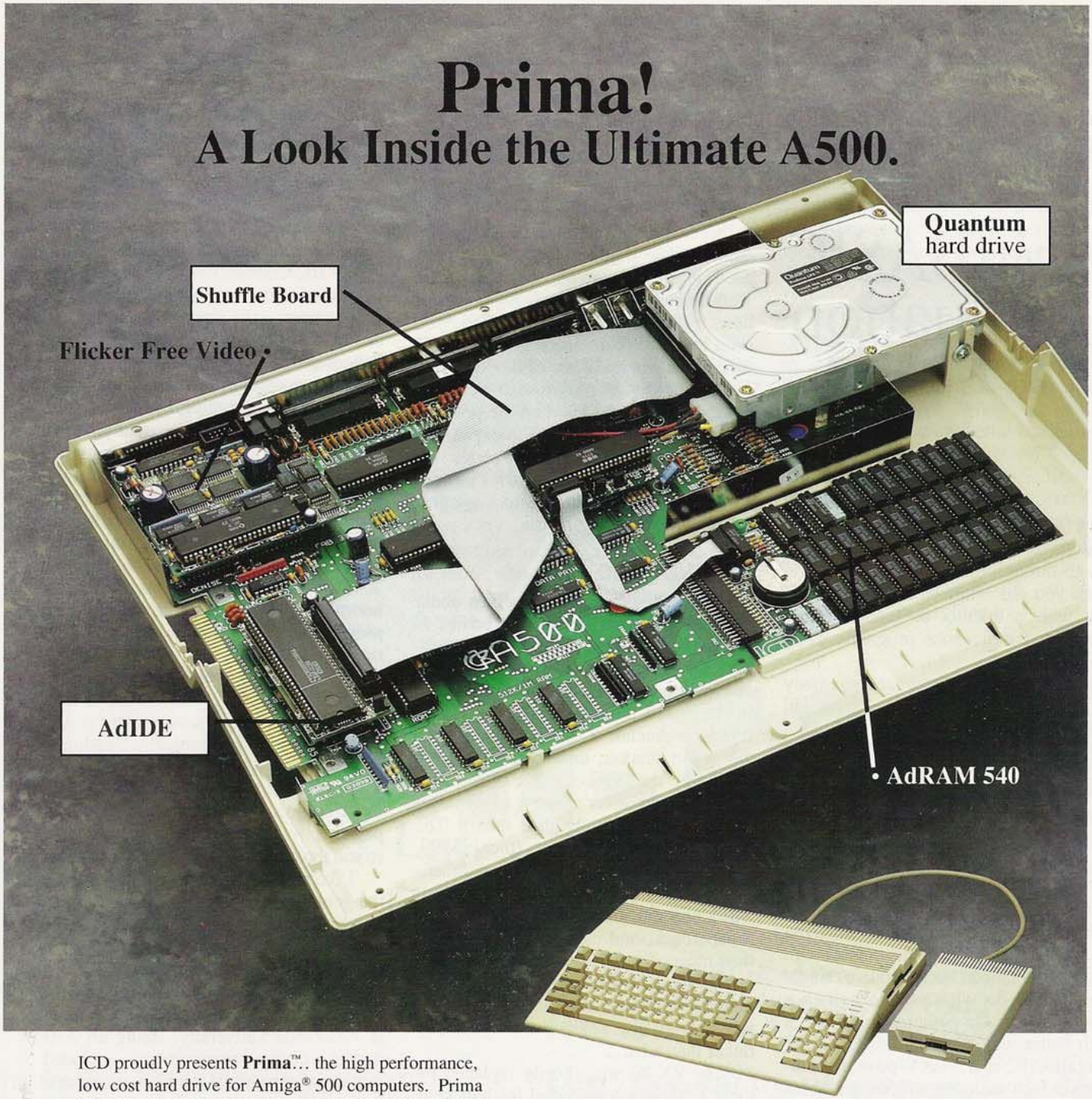

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If you've dabbled with AmigaBASIC, but aren't sure where to go next, this series by *Peter Deane* is for you.

Amiga BASIC Graduation Part 1

When programming in any language, there are quite distinct stages you will go through in levels of competence. When you first start work, you tend to stick with a number of familiar commands, and write your programs using only these.

What's true is, there are so many ways to skin a cat. In theory, you could construct your programs using a minimal number of commands from the BASIC set. If a complex procedure is required, it can be split up into a number of components, and coded using very simple instructions. This is how assembly language programmers do it anyway, as the command set is intentionally limited to small - but fast - keywords.

With a language such as AmigaBASIC, searching through the manual will undoubtedly mean you find a single command to do what you've written a subroutine for. Or perhaps you'll see a much better way of doing things. In all, AmigaBASIC is a VERY powerful language, which includes well over 100 inbuilt commands. And that's only the beginning, because with sub-program construction, you can actually write subprograms that will function exactly like commands. If you (like me) program to any great extent, you'll eventually collect quite a few sub-programs on disk which you link in with your new programs as a matter of course.

But back to the original point: there are quite definite stages through which you progress in your use of the langauge. What this series will attempt to do is accompany you through those stages, explaining things along the way, and how to accelerate your progression. I'll include many fragments of source I've used in my programs, or from other working programs, because regardless of how well something is explained, you need to see the commands in actual code before you can make use of it.

As the series progresses, we'll get more complex, and build on the prior articles. When I'm finally up to explaining the stage I'm at now, then the series will end, and you'll be on your own - however with enough knowledge to keep progressing on your own mettle.

So, why me?

If I read something about just about anything, the question always comes to mind: 'Who is this guy, anyway?' I suppose I'd better come clean here and now, and let you know a little about myself.

In 1980 I bought my first computer. It was a Sinclair ZX-80, which rocked the world market, and would probably have been the first computer of so many people who'll never admit it today (after all, it would certainly date them)! The ZX-80 was available for (then) $299, and included a 4k ROM set of rudimentary BASIC, and a full 1k of RAM. It was a tiny machine, only just larger than a paperback, and certainly a lot thinner than most of today's novels. It had a flat membrane-type keyboard (touted in the manual as being impervious to coffee spills) with tiny keys, and a space key rather than a bar.

The ZX-80 was shortly replaced by the ZX-81 which provided for real keys and greater expandability. This was irrelevant, however, as I realised that the ZX-80 was next to useless after about three months. Being in High School at the time, it was difficult to justify to one's parents to lash out great sums of money on 'hobbyist' equipment. I got a part time job and eventually saved up enough to purchase a Dick Smith System 80, a Tandy TRS-80 Model I clone.

Starting out big!

This machine was awesome. It had 16K of RAM and a 12K Level II BASIC ROM. There was even an inbuilt cassette player for loading and saving programs and data. But, more importantly, the machine had support, as the TRS-80 was then the IBM clone of the personal computer world. More TRS-80s existed than the other machines of the time, such as Apple IIs, Commodore PETs and Exidy Sorcerers, and if you wanted to look for a program, it would certainly be available for the TRS-80, if it had actually been written.

I progressed as normal, and started programming by typing in listings from magazines. Such a method really allows you to start programming as one tends to always make typographical errors. When the programs don't run, you have to start investigating why. Finding typo's in long program listings is debugging, one of the major steps any programmer has to do.

After having the machine for a number of years I had written a collection of programs which did such things as metric conversion, to an actual graphics game, where just about every second instruction was POKE. I once tried to alter my game some four weeks after it was written, and failed dismally. Structured programming was not a thing you learnt back then, and I had so many GOTOs that the code was what we refer to as 's-paghetti' - it's impossible to follow a strand through from one end to the other.

Like most teenagers, I got bored with the hobby after a while, and more important things (such as getting a car) made me sell the machine. I didn't touch a computer for about four years.

I got my Amiga 500 back in 1989. At the time I was a first-year Drama student at Newcastle University. Being an Arts degree, course requirements included writing a substantial number of essays, so naturally a student is going to look for ways to make that task easier. At first I'd klunk away with an old typewriter (my handwriting has always been relatively illegible), but I soon purchased a typewriter which had a one line LCD editing buffer. That enabled me to backspace out my (numerous) typo's BEFORE pressing return and printing the line.

Once, I ventured up into the library's micro-computer laboratory. In it I found half a dozen Apple Macintoshs running a program called *MacWrite*. It looked pretty easy to put together an essay, and for my first effort I did a 1500 word Philoso-

Continued on p42

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phy I essay. It took substantially longer than I expected, as there was a lot more 'learn how to use a wordprocessor' involved than philosophy!

I could see the incredible advantages, however. Once you got the hang of it, an essay could be written in one sitting - extremely useful when you left it to the night before it was due! (Don't panic, Andrew, I've spent three days writing this one).

So to jump the queue (there was always a large number of students waiting for a Mac to become available), I managed to actually convince my parents to get me a computer. I looked around, and although we certainly couldn't afford a Mac, these Amiga things had a very similar environment. In any case, *Textcraft Plus* came free with the machine, so I was writing essays within a couple of days.

Naturally you soon learn to buy more peripherals: extra drive, more RAM, a printer, and so on. It got worse. A monitor replaced the television set, a modem was added (best purchase you'll ever make), and finally an 80 Meg Hard Drive. I'm pretty happy with my setup now. I've got something connected to every port on the A500 except the monochrome video output. Next step is to sell the lot and get a 2000 or even 3000. But that will be a long way off.

My Amiga today

I mainly spend my time now running a Bulletin Board in Newcastle. This software allows external callers to connect to my machine, login and play online games, write messages to other users and download utility files which are freely distributable. I can't possibly explain what a BBS is in a paragraph - ask someone you know who has a modem.

But the connection is that my BBS software is written in BASIC. All the online games are, too. When I first started running the BBS, very few doors (external programs the BBS runs - eg games) were available. So, I decided to write my own. Sample door routines were provided, so that if I wanted to create a door, I started with the 'guts' of a door which handled the serial Input/Output (I/O), and I simply had to slot in my code, calling these routines as appropriate.

So far I've written over a dozen online games, which got progressively more complex. The source code to my BBS is available, and I've also spent many hours adding extra features and fixing bugs in that. Currently, I'm adding FidoNet networking ability, which is my most ambitious project by far, but has been progressing admirably.

Due to the nature of BBS I/O (all of it is straight text - ASCII, we call it) I haven't had to use the graphical elements of AmigaBASIC yet, and so won't be covering that unless there is great demand. I will be showing how to add menus and a workbench environment to your programs (something you cannot do in BBS doors), but my main forte is coding for the serial port. As a result, I may tend to put in text-based screen prompts, whereas a real Amiga programmer would use requesters and gadgets. Never mind. I'm sure you'll be able to use the hints I'll be including in your own programs as you see fit.

AmigaBASIC : a profile

Let's start with the bad news. AmigaBASIC is outdated, buggy and slow. Its integrated screen editor is perhaps the slowest I've ever seen. Version 1.0 of the language was released in 1986, and it has never been updated since. (How many other programs on the Amiga do you regularly use that were written in 1986)?

The best step I made was to completely forsake AmigaBASIC and purchase a copy of GFA BASIC, some four months ago. This language has many features to recommend itself, but I will not be covering that in this series.

The most important aspect of AmigaBASIC is, however, it comes free with every A500 and A2000 sold. And at the price, it makes it the finest computer language available for any machine. (Features divided by price equals infinity).

So every Amiga owner (except those with 3000s - it won't run under Workbench 2.0) has access to quite a powerful language allowing for structured code, with a vast number of extremely powerful inbuilt commands. It seems to be that most Amiga owners, too, have a copy of the extras disk sitting at the back of their disk collection totally unused. This is what we want to avoid, because despite its shortcomings, the language will give you hooks into your Amiga that are simply unmatched by DOS scripts or other such devices. It will also allow you to integrate existing programs in a very convenient way.

The slow side of AmigaBASIC can be obviated by simply adding a compiler. As you'll probably know, the language is an interpreter. As a program is executing, each line is translated into machine code, and then executed at low level while the program is running. Not only does it have to process the commands you write, but also the translation from BASIC code into machine language. What's more - if a line has to be executed 100 times, then it has to be interpreted 100 times as well.

There are two compilers available as a companion to AmigaBASIC. A compiler will scan your code, translate the whole thing into machine code, and give you an executable module which can then be run without having to load the AmigaBASIC program. In effect, the compiler lets you produce the software which stands alone, just like any major applications program (such as the text editor I'm using now).

Unfortunately, you have to buy the compiler, but if you are after speed, it's the only solution, as once compiled, the programs will run at a factor around five times faster than the interpreted versions.

AC-BASIC, published by Absoft, was the first AmigaBASIC compiler available, and is highly compatible with code produced by AmigaBASIC itself. Some changes will have to be made to your code (such as having to always dimension arrays before they are used, and ensuring any sub-programs are at the foot of the code), but with a bit of experience, you'll be able to get anything to compile. It's quite expensive at around $250, but if you're serious, then it's worth getting.

HI-SOFT BASIC is published by Hi-Soft in England, and is a more classy compiler, producing executables that run faster than AC. It also produces smaller executables, saving diskspace and meaning they load faster. The main problem with Hi-Soft is that it starts to depart from standard AmigaBASIC a little more, requiring a slightly larger effort on your part to get your programs to compile. However, it will nearly compile straight AmigaBASIC. And at around

$180, it's a better deal than AC-BASIC.

Neither of these compilers have integrated interpreters, they are simply straight compilers. The advantage of an interpreter is your program can be developed in the interpreter without having to re-compile after you make changes. For long programs, the compilation stage takes some time, and even if you change just one line, you have to re-compile.

They are close enough to AmigaBASIC, however, to allow you to get your program to an advanced stage under AmigaBASIC, and then start the compilation process with a substantial chunk of the program already written and debugged.

For a comparison of other BASICs available on the Amiga, there was a recent article in *Professional Amiga User* to which you may like to refer. Having worked extensively in GFA, I think the author missed a few of the finer points of this language, as I personally regard this as the best. It has both compiler and interpreter and integrated editor, however it's far from AmigaBASIC. While conversion is possible, it's no picnic, so I won't be mentioning GFA any more. The purpose of this series is to explain AmigaBASIC, because everyone has a copy of that.

These sorts of compiler considerations are only relevant, when you start producing large programs. For the novice user, the AmigaBASIC package as provided on the Extras disk will provide you with 'many hours of fun' (and even more hours of frustration).

Next month

Next month we'll be getting our hands dirty and writing code. This series is aimed not for the complete novice, but for those who can already code a FOR-NEXT loop, and call subroutines. I'll be showing you how to improve what's between the FOR and the NEXT, or before the RETURN.

The next article will include a rundown on disk-based files, showing you how to arrange data so that BASIC can store it, and access it at a later time. We'll be working through a simple address book program (why do we always do address books?) to illustrate the theory.

I'd like your comments on this series. If you wish to contact me, please write to:

Peter Deane P.O. Box 13 , WARATAH NSW 2298

If you have a modem, you can call my BBS (Inquestor) on (049) 68-2641. Currently it's up from 7:30pm to 10:00am daily, plus all day on Saturdays.

If you have any specific questions, I'll try to either answer them in these pages, or let you know when I'll be covering that particular aspect, so please keep the feedback rolling in. ❑

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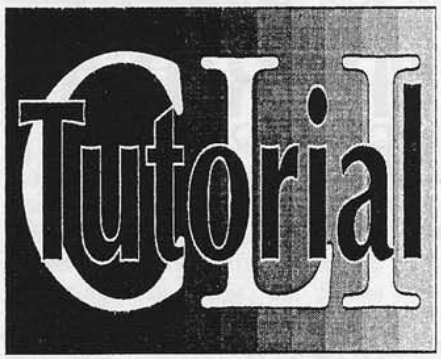

Coming to grips with the Amiga's CLI
A Tutorial for Beginners PART 15
by Andrew Leniart

orkbench 1.3 came out with some excellent features, some of which we'll be exploring this issue. One particular feature we'll be looking at is the SHELL that came out with the upgrade.

There seems to be some confusion as to what exactly the difference is between a SHELL and a normal CLI. I've received a few letters regarding this topic from readers, so to try and clear things up a bit, I've decided to devote a few paragraphs to the topic this issue.

What's a shell?

If you answered that it's something you pick up by the seaside and take home so you can hear the ocean with it when not at the beach, then you are quite right, but not in the correct frame of mind to what we're on about here. An Amiga SHELL is basically a CLI albeit with a difference. It has some built in features which can make life a lot easier for you when working with the CLI such as the ability to use Alias' with commands and retaining a history of previously issued commands in any particular session. Let's experiment a bit.

First thing to do is to fire up the Amiga and give her a boot with a Version 1.3 Workbench disk. That done, open up the workbench disk and double click the Shell icon. You are now in an Amiga Shell. But it looks just like a Cli some will say, so what's the big deal? Okay, let's find out.

Type in the following command in your SHELL exactly as shown, spelling mistake and all, then hammer your return key.

DUR DF0: Opt A

As there is no such command as DUR, the Amiga will understandably spit the dummy at you with the response "Unknown Command DUR". Now before Shell existed and we were stuck with just a normal CLI, we would now need to re-type the whole command all over again, this time making sure we spelled Dir correctly the second time round.

Using a shell we can do this instead: Give the UP arrow on your keyboard a press. Bingo! There it is again, but still with the spelling mistake. However we can now simply edit the mistake out. Using your arrow keys again, go back along the line and either backspace over the U when you get to it or use your delete key to remove it once the cursor is directly on top of it. Replace it with an "i" and slap the return key again and all's fixed. Lots easier than having to type the whole line again.

The exercise we've just gone through was to give an example of the Amiga Shell's ability to retain command history, as well as its flexibility in allowing you to use arrow keys to go back over previously typed words. This allows us to edit our commands rather than have to type them in all over again. Here are some of the features listed when using command line editing:

The BACKSPACE key deletes anything before the cursor.

The DEL key deletes whatever is under the cursor.

UP-ARROW will take you back to previously typed commands one by one.

DOWN-ARROW does the same but goes the opposite way.

CTRL-X will delete everything on the line.

CTRL-U will delete everything from the cursor position to the start of the line.

CTRL-K will delete everything from the cursor to the end of the line.

By typing the first part of any command you've used and pressing the SHIFT-UP Arrow [Or CTRL-R] you can get to that particular command.

You can use SHIFT-DOWN Arrow [Or CTRL-B] to get to the very bottom of the command history and be at a blank line ready to issue another command.

In regards to Cursor MOVEMENT:

LEFT & RIGHT Arrow move the cursor for you in their respective directions.

SHIFT-LEFT Arrow [Or CTRL-A] will take the cursor to the start of the line without deleting anything.

SHIFT-RIGHT Arrow [or CTRL-Z] will take the cursor to the end of the line without deleting anything.

Now that's pretty impressive on it's own, but there's even more with the built in Alias feature of Shell. (Note that NEWCON: must be mounted and SHELL-SEG resident for any of this to work, so if you've run into problems with none of this working for you, then skip down to the paragraph titled Trouble Shooting and check this out).

ALIAS

I've discussed Alias before, but it's worth mentioning again here as it's another handy feature which has some potential time saving capabilities. You can make short cuts for yourself with often issued commands utilising the Shell's alias feature. Its command template is simple enough and looks like this ...

ALIAS [alias_name] [string]

where [alias_name] is what you want the alias to be that you actually type and [string] being the actual full command that is to be executed when the alias is issued. For example, try the following in a shell.

Alias SS Ed DF0:S/Shell-Startup

Typing SS in the shell now will have the effect of starting up ED, the workbench text editor and loading the Shell-Startup file located in the S directory of your workbench disk all ready to be edited. Typing Alias on its own will give you a list of all the current aliases for the shell you are using.

Something that must be pointed out is that if you make an alias in a shell, it is only good for the duration which you keep that shell open. If you close it via endcli or endshell, then you lose all of the aliases you had made. The way to make them permanent is to include them in the file SHELL-STARTUP which we opened up in the last example.

Whenever a shell is opened by either double clicking a shell icon or issuing

Continued on p48

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the command NewShell in a cli, then it automatically looks for and executes the file SHELL-STARTUP in the disk's S directory. You can edit this file to include all of your favorite aliases and short cuts and even to run programs each time a shell is opened. Experiment and play around with this feature of your Amiga. Once you get the hang of things, there is no looking back and you'll begin to wonder how you put up with doing things the slow way for so long.

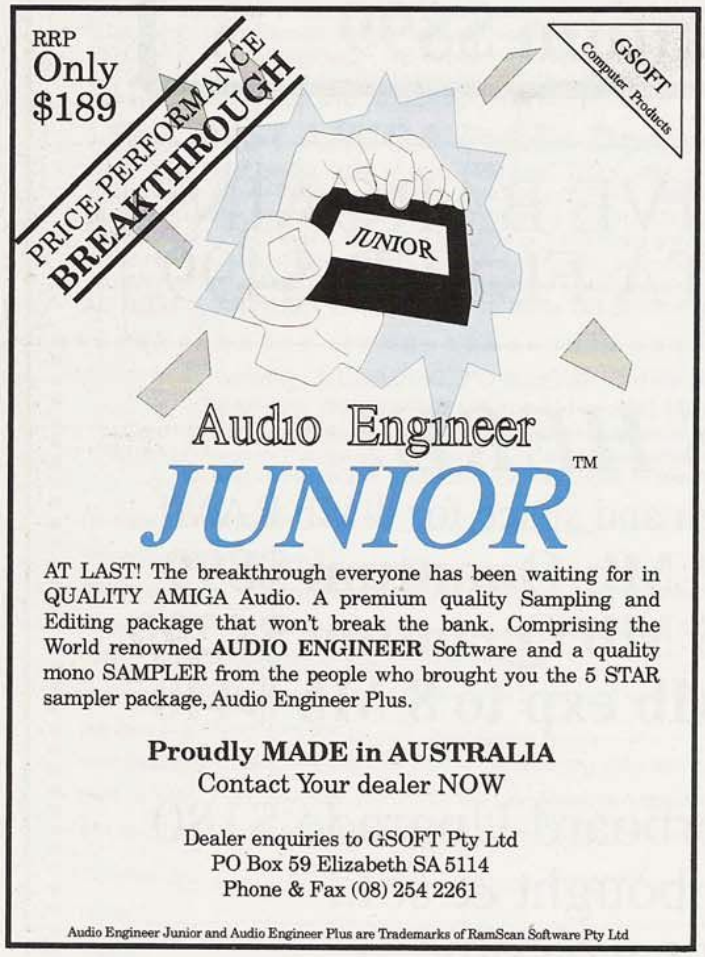
Trouble shooting

If you have been having problems getting any of the above examples to work, then check the following ...

NEWCON must be mounted. This is the new console handler supplied with the 1.3 WB release and must be mounted if you are to take advantage of all of the shells features.

SHELL-SEG in the WB L directory must also be resident. If it's not, then when you click on a shell icon, you will get a normal CLI instead of a shell.

All this happens automatically on an unmodified 1.3 workbench disk, but you or someone else that uses your Amiga may have removed some lines from the disk's startup-sequence in order to make the disk boot quicker. Check to see if the following two lines are in the disk's startup-sequence, if they are not, edit the file and put them in yourself.



RESIDENT CLI L:Shell-Seg SYSTEM pure add MOUNT newcon:

A simple way to edit the startup-sequence is to open a CLI and type in..

ED DF0:S/Startup-Sequence

Once in the editor, cursor down the left hand side and press return a couple of times somewhere in the middle of the file to create two blank lines. Type in the lines shown above and save the file by first pressing the Escape key and then X. You can now reboot and all should work fine.

For more detail on using ED to edit files, refer to previous issues of ACAR. If all else fails, send in a description of your problems and we'll try and help you sort it out.

Lock that hard drive

If you're lucky enough to own a hard drive attached to your Amiga, then you might be interested to know about a way in which you can protect your hard drive from accidental erasure.

Write protecting a floppy disk is childs play as all you need do is make sure the write protect tab is set to the open position on it. But what about if you want to stop a partition of your hard disk from being written to? It's actually not all that much more difficult.

As long as your hard drive is formatted under the new Fast File System that was introduced with Version 1.3 of Amiga Dos, then you can indeed write protect it in a very similar fashion to that of a floppy. You do this with the help of the LOCK command. Type LOCK? in a shell and the Amiga will respond with its command template. ie:

Drive/A,On/S,Off/S,Passkey:

Assuming you have only the one partition on your hard drive being DH0: then to write protect it you would issue the command..

LOCK DH0: ON

From then on, if you tried to write (or save) to your hard drive, you would get a requester telling you that DH0: is write protected. Reverse the procedure by using the OFF switch in the command. Ie:

LOCK DH0: OFF

The "Passkey" option enables you to choose a password when locking the drive or partition so that the password must be specified in order to remove the lock. Ie:

LOCK DH0: ON [Password] LOCK DH0: OFF [Password]

In order to unlock DH0: after issuing that command, the operator must be aware of the password which you selected. Good for protecting the HD when you have to leave the Amiga for a while and you have a few mischievous ankle biters around the place that like to play with unattended keyboards. Unfortunately, once the system is rebooted, the lock is automatically removed, but it's still a handy option to prevent

Continued on p50

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Letters

The emphasis on SHELL this issue should cover quite a few of the queries that a few of you have sent in. However, Andrew O'Malley of Clare in SA writes in with an interesting problem to do with preferences ...

"Dear Andrew, I'd like to congratulate you on your CLI tutorials, which have been both interesting and informative. I have a query about preferences. I've created my own boot disk which loads the C directory, amongst other things into Ram as I only have a single drive at the moment. When booting the disk, I was given the standard Workbench colours and 60 characters across the screen. I therefore copied preferences over to the disk to change the colours and set the font to 80 characters across. This was satisfactory, but seemed a waste of disk space to install the whole preferences file just to change colors and character size.

"Since then, I have noticed on other disks such as the AmigaDos Utilities 2.0 Theme Disk compiled by Andrew Farrell, that the colours are customized but there doesn't appear to be a preferences file. I used SID to view the disk to check if the file was simply hidden but came up with a blank. I also checked the startup-sequence to see if there were "echo" commands that could possibly change colours or preferences.

"However, I found nothing and am therefore wondering if it is possible to change preferences without using the Preferences file? I noticed the disk had a special boot block (which I tried removing with "Install" but didn't succeed) so can preferences be changed here somehow? Any info given on this would be greatly appreciated."

Andrew went on in quite some detail to ask help on some printer problems relating to drivers and such but as I plan to emphasize an article on printing shortly, I'll leave those queries for then.

You certainly have given it a good shot at trying to find the solution, Andrew. You were actually on the right track when you started using the Disk Utility SID to look for a file which contained the settings you wanted to copy. You just didn't look in the right spot is all.

The file I speak of can be found in the DEVS directory of any bootable workbench disk and its name is the "System-Configuration" file. This file is about 232 bytes in size and contains all the information relating to the settings you make when using Preferences.

The program "Preferences" itself serves no purpose other than to manipulate the "System-Configuration" file. Once you have selected all the settings in preferences, you can remove Preferences from the disk completely without any ill effect at all. You would however need to copy the program back if you ever wanted to change any of your settings like select a different printer driver or maybe change the workbench colours around a bit.

In regards to "Install" - this command will make a floppy disk bootable so that it is accepted at the Workbench prompt, however it cannot be used to copy across other disks' bootblocks. To do something like put a custom bootblock on one of your own disks, you would need special software which has the capability to perform the task.

One such program is *ZeroVirus* by Jon Potter and another is "NOVIRUS" by Nic Wilson. Both happen to be Australian programmers and both have released versions of their programs to the public domain as shareware. Later versions of NoVirus however have this feature disabled unless you purchase the commercial version.

Both *ZeroVirus* and *NoVirus* have the advantage of doubling up as being excellent Virus Checkers and eliminators, which is what they were primarily designed for, and use a brainfile system to allow you to update and keep up to date with new virus strains as they appear.

Finally, the "Echo" command is mainly used in a startup-sequence to echo (or write) messages to the screen to display information in much the same way as the "PRINT" command does in AmigaBASIC. While it is possible to pass parameters to the echo command to make text appear in a certain colour on screen, this has no lasting effect on disk settings.

That about wraps it up for this month, so till the next time, keep hammering those keyboards ... ❑

Public Domain Update

by Andrew Farrell

Directory utilities

Hot news on the PD front this month is the imminent arrival of *SID 2.0* by Timm Martin. The early version, although powerful, was difficult to configure - you had to resort to a text editor. Version 2.0 fixes that and adds many more features. In August 1990, the author of *SID* began re-writing *SID* from the ground up, incorporating nearly every reasonable suggestion in this new version. The result is *SID v2.00*, the product of over 1500 hours work and 1.9 million bytes of C and assembler code spread out over 669 functions in 260 source files. Sounds impressive!

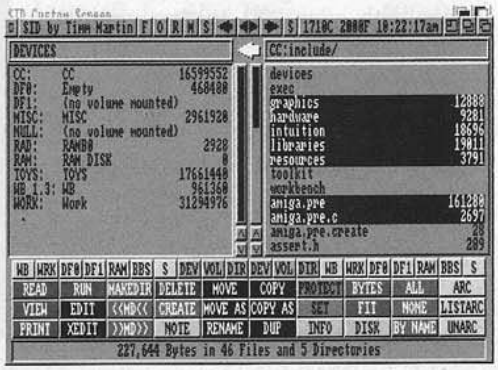
The key word for *SID v2.00* is "configurability." Almost everything about *SID* is configurable, including the the buttons, colours, descriptions, flags, fonts, layout, and menus.

You can now have an unlimited number of buttons arranged in banks that you can flip through by clicking the right mouse button. *SID* can reside on a four, eight, or sixteen colour custom screen and you can change the colours for over 60 components in the *SID* display.

Custom menus are supported to launch your favourite programs. *SID* can now identify over 50 files including: animations; ARC, LHARC, PAK, WARP, ZOO, and ZIP archive files; *AmigaVision* flow files; *Deluxe Music* and *Sonix* songs; fonts, icons, executable programs; executable programs; ILBM and GIF pictures; *SuperBase* files; and many more.

In addition to the existing file descriptions, you can have *SID* analyze a group of files to produce new file descriptions. For each file, you can attach a command to be executed when you double click on that type of file. You can specify the font to be used for a dozen components in the *SID* display and specify keyboard shortcuts for all buttons and menus within *SID*.

SID comes with a QuickPrefs program which will get you up and



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running fast. There are loads of new commands and functions inside *SID*. If what you want is not supported you can set up external commands. Other new features include an asynchronous clock that runs even while *SID* is busy doing other things and a configurable hotkey that will find *SID* anywhere on your system and and even unshrink it if necessary. Coupled with the planned AREXX port, you can use SID as a super file requester.

To make things easier, *SID v2.00* comes with over 200 context-sensitive on-line help files. The program is currently in the hands of local beta testers, and next week over 50 official *SID* beta testers throughout the U.S. and Europe will put *SID* through its paces. One megabyte or more is recommended. I also recommend a hard drive, though it is not required. *SID v2.00* will be available real-soon-now.

Commercial demos

The number of publishers releasing demonstration copies of commercial programs seems to have doubled several times over in past months. Programs like *Deluxe Paint, Superbase, SpectraColour* and *Real 3D* are all making it into the collections of PD houses in the form of demo versions you can try before you buy. Often these have a few features disabled, such as the SAVE or PRINT option. Now there's even less excuse for piracy with the option to see just what a program has to offer before you buy. Has anyone noticed retailers making demo copies available?

We want your Demos!

Australian Commodore and Amiga Review doesn't seem to attract much interest from demo writers. Well, I think it's high time we did. How about it guys? If you've created a new demo of any description, why not shoot it down to us and we'll give it a mention in our next issue and maybe even show our readers your smart graphics!

Fred Fish Aquarium

In the meantime, the latest news on the PD front is the huge increase in the Fred Fish library over past months. The number of disks has now hit 530 (by the time you're reading this it will probably be much higher). Keeping track of all the Fish is really tricky unless you have a good database of what's available.

I recommend you get yourself a copy of *Aquarium*, a complete database of the Fish library. *Aquarium* allows you to browse the list program by program in disk order. You can search for programs matching certain criteria by selecting gadgets at the top of the screen.

You can also search by the program name, or you can jump to any disk. Best of all, you can locate a program by any

word in the description included. Partial matches are supported. The descriptions are the full text from Fred Fish's own contents files on each Fish disk. The database is updated regularly by various people, so it shouldn't be too hard to get your hands on.

Home Manager

Last month whilst browsing around Compuserve I noticed a smart program called *Home Manager*. It caught my attention for two reasons. One is that it was written using *CanDo*. You don't see too many really good *CanDo* programs around. Judging by the size of this one, there must have been something there worth looking at.

The LHARC file had been downloaded a large number of times and what's more, the author was a lady called Linda Lullie, with a reputation for writing very smart software. So what's it do?

Home Manager is a productivity program written to encompass many areas of managing your home. It includes six individual applications accessible through a main screen or from each other. *Contacts Manager* is a standard phone and address book, *Numbers Manager* is a simple calculator and *CashFlow Manager* is a budget/ balance sheet.

There's also *Dates & ToDo*, which is a calendar utility, a must for every magazine editor. *Food Manager* is a grocery list builder which lets you choose products from a huge file of items and add them to your next shopping list. *Plastic Money Manager* is credit card database.

Home Manager also provides a button for launching an external program of the user's choice. The interface is very slick and the whole program is easy to use. A lot of thought has gone into the design and layout of each screen. The catch is the program only works in interlace mode although the colours are well chosen.

The program is shareware so the unregistered version has a couple of limitations. Overall it's an excellent example of what *CanDo* is capable of. Registration will cost you US$15 to the author, for which you'll receive all updates, extended years on the calendar utility, bug fixes and documentation (we hope). Try your local PD supplier for a copy or call the number at the end of this article.

New Theme Disks

As the number of public domain collections continues to mushroom, so too does the difficulty in knowing where to find the program you're after. Whilst it is true that there is some overlap with many collections, the majority contain unique graphics, utilities and more recently, productivity software which is well worth investigating.

I've spent a lot of time trying to find the better titles from all available disks and creating theme disks. These contain only the best programs to fulfill a particular purpose and are updated to reflect new releases, updates and improvements. New titles include a Business Pack, Hot Games 1 to 3 and new Anti-Virus collection.

Programs have been sourced from Fish Disks, U.K and U.S.A Bulletin Boards and from services such as Compuserve. The quality of public domain software is improving and as older titles are updated, even they are comparing well with some of the best commercial programs. For details call Prime Artifax on (02) 879 7455.

Public domain titles are available from several companies who advertise in the magazine. ❑

CD Software Roundup

Software for CDTV is rolling in thick and fast - as well as fairly expensive. This month, we take a quick look at some of the reference titles already available - next month we'll browse through games and education.

So what should you look for when you're buying reference titles for CDTV? What questions should you be asking? To me, the big issue is this. Is CDTV adding anything that you couldn't get from a book? After all, why pay big money for a CDTV player and discs when you could get the same information from a much cheaper book?

Look for titles that make good use of sound and animation. The ability to automatically cross reference by highlighting words in the text, otherwise known as "hot-linking", is important too. Finally, make sure the "user interface screen" is simple and convenient as well - is it quicker and simpler to simply look up a book? Or is the CDTV interface so good that it's actually fun to use?

Those are the sort of criteria used in rating the titles below. Watch especially for the CD/BOOK RATIO rating at the end of each review. That tells you the relative benefit of the CD title over a traditional book. The first figure represents the CD value, the second represents the value of the same information presented on paper - look for titles with a high CD rating to get the best possible value out of your system.

Garden Fax

If you're like me, then you'll be an expert at killing indoor plants and not too good at making them grow. *Garden Fax* promises to change all that, with hints and tips on how to grow and care for over 200 varieties of houseplants. Certainly a nice idea, but *Garden Fax* is clearly a very early example of CDTV software, and it shows!

Maybe, though, you'll find the database functions helpful. Imagine you've got a special spot chosen for a plant, and you don't know what you should put there. *Garden Fax* lets you specify the flower colour you'd like, the plant size, the amount of light and the temperature, then provides a list of suitable plants. I choose purple flowers, half shade, hanging growth, and I'm told a Brunfelsia will fill the bill nicely. A small picture shows me what the plant looks like, and I'm told to water it frequently in summer and sparingly in winter, and to re-pot when necessary in spring. Now that's one thing I've always wondered. How do you know when it's time to re-pot? Usually when the plant dies.

An ambitiously titled *Film Option* shows you a very jerky stop-frame animation of the repotting process - there are apparently other procedures demonstrated as well.

The "pianola-style" scroll bars are awkward to use, the search facility is worse, and the text is not hot-linked, so you can't chase a particular subject through the text - all rather limiting. In short, *Garden Fax* probably won't make your brown thumbs much greener.

Graphics:	65%
Animations:	51%
Sound:	67%
Content:	71%
Ease of use:	55%
CD/Book ratio:	1/3

Summary: Offers little that a nice book wouldn't do better. ❑

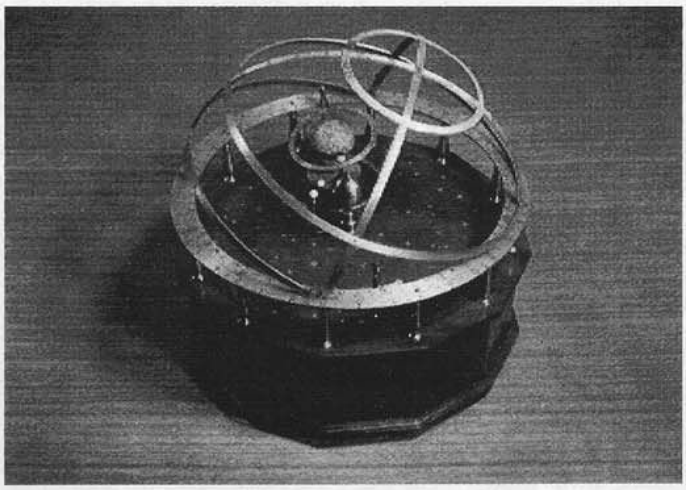
Time Table of History and Technology

For science and technology freaks, this one's a definite winner. You can spend hours treking back and forth through time tracing the development of your favourite inventions. With thousands of brief and chatty articles hot-linked together you can trace through and sequence you like. Many articles are accompanied by pictures, some have charts and technical data on separate screens, and one or two have animations. The story of Eadweard Muybridge, for example, the father of moving pictures, is accompanied by an actual demonstration of his pictures - a race horse photographed at split second intervals by a series of cameras linked to trip wires. This is fascinating stuff, and real "first hand data." Unfortunately, though, I can't find any other animations, so the rating below suffers accordingly. In other areas, depth of information is lacking too. After all, if they can show Muybridge's first animation, why can't they give us a look at the first still photo, for example?

Ah well, such is life. All in all, I found the timetable fascinating, and so far I have only just scratched the surface. One of the most interesting things about a title like this is the freedom it gives to explore at random - sitting back and analysing the path you've taken is often a bemusing experience.

Screen layout is clear and simple, with a series of ever more detailed time lines appearing as you select your target era. Sound clips are included with major items, offering a potted summary of significant world events.

Graphics: 81% - Some nice illustrations and photos, though I would have liked more!
Animations: 60% - Muybridge's horse is wonderful. But is there more?
Sound: 78% - Well used in the main menu section.
Content: 74% - Not deep, but certainly broad.
Ease of Use: 84% - Fun to use, and simple.
CD/BOOK RATIO: 3/1 - The ability to choose topics and see events arranged chronologically can't easily



Gyroscope - From Time Table of History & Technology

be matched by a traditional book.

Summary: Offers some things that a standard book just can't match, like Muybridge's animation actually animated! Lacks depth in places, but great fun to browse. ❑

Since time began, man has cherished a simple dream. The dream of a computer in every kitchen. In some strange quirk of fate, the concept of a computerised recipe book has always been a favourite with computer salesmen. But think about it for a minute. Who needs it? Aren't the colour pictures in a recipe book more interesting than drab text on a computer screen? And worse, what happens when the self-raising flour gets sprinkled on your computer keyboard? With the arrival of CDTV, of course, some of those problems have been solved. So let's try it again!

The Electronic Cookbook is more than a cookbook - it's a menu planner. And it's got quality, full colour pictures to match even the glossiest recipe book. The title screen shows icons representing the major food groups - dairy, fruit and nuts, meat, grains and veggies. From here you can go on to design fancy dinner party menus based on the ingredients you've got in the pantry.

Say I've got some blade steak and some ginger. I can automatically search for dishes that combine the two ingredients. Quite handy. Or what if I'm a kitchen-cretin, and I don't know a snow-pea from a pickled onion? The Electronic Cookbook will show me pictures, and explain each ingredient in detail. A

Grolier's Electronic Encyclopedia

Already the standard CDTV reference work, though mainly because it's first! The *Grolier* is a comprehensive encyclopedia on disk, with an encyclopedic price tag to match. We reviewed this one last month, so here's a brief recap.

Soundclips include birdcalls, animal noises, snatches of the works of famous composers, musical instrument sounds and famous speeches from characters like Martin Luther King and JFK. Further use has convinced me that the *Grolier Encyclopedia* has got something about almost everything, even if there's a distinct American slant. Using a few technical tricks to scan the file structure of the disk revealed far more picture files than I had ever imagined - so when you keep digging, you'll keep finding surprises. Having said that, the quality of the hand-drawn illustrations and maps is a little disappointing, as is the sound quality of some of the music.

The user interface is clear and simple, and the text is hot-linked, so you can highlight any word for a full list of occurrences in other articles.

Graphics: 76% Good range of illustrations and photographs.

Animation: 0% None that I can find so far.

Sound: 81% A good selection, though some music samples sound scratchy.

Content: 89% A wide range of information at your fingertips.

Ease of Use: 86% User friendly, with a simple search interface.

CD/BOOK Ratio: 3/1 At it's best, much better than any book. The rest of the time, just as good.

Comment: Books just can't reproduce the multi-media experience of hearing Martin Luther King's "I have a dream" speech as you look at his picture and read his life story. Even so, that sort of depth is limited, and you'll soon find you've come to the end of the sound files. Hot-linking of words is a superb feature, though on large searches it's a little slow. Overall, good stuff, and hopefully the first of many similar titles. ❑

Bird - from Grolier Encylopaedia

"shopping list" function finally collates all the items you'll need to buy for the dinner party of your choice. Surprisingly, though, there's no provision for entering or modifying quantities, and at this stage you can't print out your list to take shopping. So the old question remains. Electronic Cookbooks... who needs 'em?

Graphics: 77% - Nice colour pictures of all sorts of food.
Sound: 70% - Helpful assistance from a friendly female voice.
Animation: 0% - None so far.
Content: 54% - Pretty limited usefulness.
Ease of use: 78% - Sure it's easy to use, if you ever really want to.
CD/BOOK RATIO: - 1/10 A good cookbook will beat this any day.

Summary: I'm not really sure why you'd want to buy this - but it's up to you. ❑

cdtv news

A-690 for January release

If you're an Amiga 500 user who is waiting for the A-690 CD-Drive to arrive, you can stop holding your breath. The unit is scheduled for December 1st release in the USA, and January here in Australia - just too late for your Christmas stocking. The price will be attractive, though rumour has it that one or two CDTV features will be unavailable.

Inside CDTV Software

Here's a handy tip for the technically minded. If you'd like to take a peek at the workings of a CDTV disk, all you need is an external Amiga drive and a copy of Diskmaster or a similar utility. The CDTV will boot from the external drive if selected - then you can simply use Diskmaster to browse around whatever picture and sound files you can find - as well as text, which I guess you can also print, if you've got a printer connected as well. Browsing through a title like *The Grolier Encyclopedia* is fascinating, with an awesome number of pictures arrayed in multiple directory layers. Rumour has it that the *Lemmings* CD has some interesting hidden files just waiting to be explore too!

Brisk sales for CDTV

CDTV units are reportedly selling just as fast as they get into the country. If you want one for Christmas, you'd better place an order! Meanwhile, software availability is okay, except in South Australia where there have been distribution problems. These should be ironed out by the time you read this. So it's all systems go in the CDTV revolution.

New titles arriving soon

Commodore's PR team, The Others, are literally scouring the world in the search for new CD titles. Howard Needleman is currently in London sourcing new software - and here at ACAR we'll be the first in Australia to see it. Stay tuned for more details.

Hard Disk Cafe for CD+G

One of the nice little bonuses with the CDTV is that you can play the latest CD+G format music titles - standard audio CDs with built in graphics and song words. Great for your very own Karaoke sessions! But where do you find CD+G discs? Easy. Sydney's premier Commodore dealer, The Hard Disk Cafe, is building up a collection of titles so you don't have to go ratting through hundreds of non graphic discs at your local record store. Phone The Hard Disk Cafe on 02 979 5833 for more information.

CD-Feedback

Next month we'll launch our CD-FEEDBACK column, giving you the chance to air your views and ask questions about CDTV. Write to Phil Campbell, PO Box 23 Maclean NSW 2463, or fax your comments on 066 452060. And remember, keep your letters brief and to the point! ❑

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The GEOS Column

by Owen James

I've finally been able to track down some information about *gateWay*, the new GEOS deskTop replacement from CMD. The *gateWay* offers a resizable Note Pad, proportional sliders, and a fuel gauge. One of the more interesting advertised features is Task Switching. If you have RAM expansion you can access multiple tasks concurrently from within GEOS. It would be great to have *geoPublish*, and *geoWrite* running at the same time for quick and easy data transfer. This is NOT multitasking, but it's as good as! Gateway is available from Briwall Australia, (06) 288 0357 RRP $49.

GeoWizard

Just on the subject of GEOS task-switching, you may remember me making brief mention of *GeoWizard* a few months back. *GeoWizard* works on a similar idea. If you've ever used an Apple Macintosh you'll probably be familiar with Multi-Finder, a utility to make it easy to switch between, say, *M.Y.O.B.* and *Excel* and switch back with everything still intact. *GeoWizard* is the GEOS equivalent of Multi-Finder. To use *GeoWizard* you'll need an REU with at least one 64K bank free.

GeoWizard is $US16.50 from Comm-Plex Software, 6782 Junction Road, Pavillion, NY 14525.

Real-Time Clock

Melvin Montgomery, a well known hardware developer in the US, has been in touch with me about his internal real-time clock for the C64. Installation is as simple as removing the C64 case and screwing in the clock. Included is a GEOS auto-exec file that will automatically read the real-time clock and set the time and date within GEOS. The price is $US40.00 plus $3 postage and handling. Contact Melvin Montgomery, 1504 Amherst Drive, Plano, Texas 75075.

LETTERS

Andrew Smith, of Bayswater VIC, writes:

"Dear Owen, I've been using GEOS V2 together with *geoRam* and a Star LC 10C printer to make reports for work. I'm very happy with the results and find the whole system very easy to get around in, but I have just a couple of problems.

"1. After trying several printer drivers I can't seem to print out a perfectly round circle. I've tried the Star NL10, Star NX 10C and Commodore Compatible driver with little success.

"2. When returning to BASIC from GEOS (OPTIONS- BASIC), for a while and then rebooting GEOS by pressing RESTORE, the clock doesn't keep correct time. It goes slow, losing about five minutes every half hour.

"Hoping you can help me with these petty but irritating problems. Do you know where I could get hold of the "Composer/Editor" software for the Music Expansion System? I have drawn a blank everywhere I've looked. Please keep the GEOS Column going as although GEOS is easy to get started with, there are always new tricks to get the most out of it."

Firstly, there is a problem with printing GEOS documents. You lose a percentage of the right-hand side of the page when using a 60 dpi (dots per inch) driver, and with an 80 dpi driver the page is still larger vertically than it is horizontally. This is a problem that has no easy fix. One suggestion, if using *geoPaint*, is to first draw a square that is mathematically correct. Use the ruler to check that the length is the same as its width. It should appear slightly oblong on screen.

Use this as a guide by drawing within this area. Make all your images slightly elongated to match. Other than that I'm afraid I can't offer much help. Perhaps what we need is a 70 dpi Commodore Compatible driver!

As for GEOS losing time, again I'm afraid there's no easy fix. If the time really is such an important issue to you, perhaps you should look at investing in a real-time clock (see above).

The Music Expansion System software used to be available from Power Computing, 44 Stanley Street, Bedford, MK41 7RW (an English company). I haven't heard anything of them for a while. Has anyone else got some information for us?

Allan Belcher, of Redbank Plains QLD, writes:

"Dear Owen, In one of the recent magazines I noticed you commented about *geoBASIC* distributed by RUN magazine. I have purchased a copy of this program and can proudly say that as a novice programmer, I have successfully created a GEOS game! *GeoBASIC* is easy to use and understand and is well worth the wait from America."

Arthur Stevens, of VIC, has some similar comments:

"Dear Owen, I notice you've mentioned *geoBASIC* a couple of times in recent issues. I received my copy from RUN Magazine a few weeks back and I'm learning a whole new way to program. With a new BASIC language to learn, but with the assistance of BitMap Editors, Icon Editors, Menu Editors and Sprite Editors, GeoWorks has done its darndest to put out another great product. The manual included with *geoBASIC* is quite thorough, and there are a number of good *geoBASIC* example programs on the disk. Personally, the language looks a much easier task than Becker Basic."

Thanks to Allan and Arthur for their comments on *geoBASIC*. If only we had an Australian distributer...

geoTIPS

This month's geoTips come courtesy of Glenn Webster of Bayswater North.

◆ A few months back in this column there was a mention of the Geo to Seq program on the Q-Link side of the disk. Yesterday, slightly before I read how important it is to back up the files, I was

Public Domain Update

A few more public domain and shareware GEOS programs have found their way to me recently. Thanks to everyone that's been sending them.

Name: ScrapIt!
Author: Michael W. Schell
Shareware: Donation to Cystic Fibrosis Foundation

ScrapIt! is a GEOS-based conversion utility for converting from *geoPaint, Doodle, Koala, Blazing Paddles* and *Printshop*. Will also convert to any of the above mentioned formats. Great if you want to use an external art package to create graphics that are destined for the GEOS environment. *ScrapIt!* is very simple and straight forward to use.

Name: geoMimic
Author: Sean Huxter
Shareware: ???

GeoMimic is a cute little game in which you must mimic the musical sequences by hitting the coloured on-screen buttons in the right order. With each correct sequence the next one gets harder, with the addition of more notes to remember. You are given control over the speed at which notes are presented. Great fun, but not one that I would call a 'stress-reliever'!

Name: Wrong Is Write
Author: Joe Buckley

Allows easy conversion to and from *geoWrite* 1.1, 2.0, 2.1, true ASCII and PETSCII. Very useful if you're using an early version of *geoWrite* and need to access a V2.1 file. Also good for converting to and from ASCII format. Type up your documents using *Kwik-Write* or another fast word processor, and import it into *geoWrite* for formatting.

Name: Font Dump III
Author: Storm Systems

Font Dump does just that - dumps every character of your selected font to the printer. No longer do you have to spend hours typing out style sheets for future reference. Works well and is very useful. ❑

up-dating a *geoWrite* document. When it saved, it didn't save the Icon or information properly, and then wouldn't load anything into the deskTop. It just came up with a DISK ERROR.1:23. OK box. I then tried the convert program, and discovered that it doesn't look at anything but the directory. So a simple convert BAD program to sequential told the disk that it wasn't a GEOS file anymore, and hence doesn't need an Icon or information. You lose the file, but at least you get the rest back O.K. (OJ: What happens if you try to convert the file back from ASCII to GEOS format? It may try and re-create an icon, meaning you get your GEOS file back as well.)

◆ GEOS back-up blues? Try this with your cartridge:

- Configure memory
- Boot GEOS
- Close your disk
- Select 'ADD DRIVE'
- Turn OFF your drive
- Select O.K. a couple of times
- Select CANCEL
- HIT THAT FREEZE BUTTON!

When you boot your back-up, just select the disk Icon, and an error will appear. Selecting the Icon again will reset the drive, and all should be well. My GEOS is up and running in 10 seconds with all my preferences and printer driver engaged. This method, as can be used for other copy protected programs, confuses the computer into thinking you have stuffed up. It will then kindly re-initialize the drive to the way it likes it. Selecting FORMAT or INITIALIZE DATA DISK after loading a back-up copy generally results in an error for most drive memory resident programs if the disk drive is empty.

Thanks to Glenn for these. If you have a geoTIP, question, suggestion or whatever you can reach me care of The ACAR, PO Box 288, Gladesville 2111. And remember that I'm always on the look-out for GEOS public domain and shareware software. Catch you next month! ❑

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The C64 Column by Owen James

LETTERS

Turbo Assembler

In an effort to clear the backlog, this month's column is devoted entirely to reader mail.

F. Staunton, of Blacktown NSW, writes:

"Dear Mr. James, Firstly, thank you for your very interesting column. I tried to follow up with Alan Crouch about the availability of *Turbo Assembler V4.1*, but he had no knowledge of it. The only one that he has is called *Editor Assembler*. Can you please assist as to where I can find it?

"Also, I have rung computer shops and bookshops but I have not been able to find the book 'The Beginner's Programming Handbook'. Again, can you please assist. Is this book for the C64?"

Turbo Assembler may be a bit tricky to get hold of. Seeing you were so polite, though, if you send me $5.00 to cover the cost of a disk and postage I'll send you out a copy. Unfortunately the documentation is a little on the scarce side, but it's easy enough to figure it out.

The book goes back to about 1984, so it may be out of print by now. Has anyone seen it in their local bookstore?

KZFM Publish on C64

The next letter comes courtesy of Arthur Stevens, who Melbourne readers might know as KZ FM's traffic reporter.

"Dear Owen, Firstly it's great to see a magazine like ACAR devoted exclusively to the Commodore product. While there have been many grizzles over the years about Commodore back-up, service et-al, the actual computers are still good mates to have around. You're doing a great job, ACAR, keep it up.

"Secondly, Commodores in the Media. I guess it's always easy to look at the silly square box in the corner and SEE the Amiga or C64 being used in a show, but what about Commodores in Radio? I've been with KZFM (previously 3KZ on the AM band) for five years now, and while the station doesn't own a 64, I do. The in-house magazine 'Radio Raves' is put together four times a year on the trusty old 64 with *geoPublish*.

"*GeoPublish* is a dream to use. Nice and flexible, a little slow perhaps to print, but serves its purpose well. Only one more step, and that's to buy *geo*-Ram. *Once again, congratulations on an excellent magazine."*

Just about everyone that writes to me these days has some kind of whinge about the C64 coverage in the ACAR. However, when you consider that we're probably one of the last remaining publications anywhere that deals with the Amiga AND the C64 on a productive level, perhaps we're not doing so badly. Thanks for the 'Commodore in the Media' information.

GEOS backups

D. Croft, of Blacktown NSW, writes:

"Dear Sir, I take this opportunity to inform you that your magazine is slowly driving me crazy. To be specific, a program that you printed in the *Australian Commodore Review* - "GEOS - Making Backups". IT DOESN'T WORK! Has there been a corrected version printed?

"In your latest issue you stated that the 'Maverick' copier will make a bootable copy, but I don't want to spend $60 to backup a program that originally cost only $10."

Let's start at the bottom. For $60, Maverick will do more than just duplicate GEOS. It has a large assortment of parameters for duplicating just about any program you care to name. It also includes several GEOS utilities that are very useful. Looking at current prices for GEOS, if you need to rely on a backup only once then Maverick has already just about paid for itself. It's an investment that's well worth it. Check out the GEOS column elsewhere in this magazine for another solution to 'geoBackup Blues'.

As for the program listing, I'd be very surprised if it worked on anything but the most earliest versions of GEOS. It was printed way back before my time here, but I'm told it originally came from the book "How to get the most out of GEOS", which was printed in 1986. A lot has changed on the GEOS scene since then. Protection has changed, disk turbo routines have changed, in fact just about every aspect of GEOS has been revamped. You can't expect a disk trick to still work after all this.

Slartibartfast on Games Console

Here's a name (tag?) that C64 gamefreaks should be familiar with - Slartibartfast! Slarti writes:

"Dear Owen, Firstly I would like to point out that the C64GS actually stands for 'Commodore 64 Games System'. If you had been following recent developments of the C64GS industry you would know that the console was a flop, saleswise. The cartridges are selling well, but the console just didn't make the grade.

"Secondly, you commented in your August column that the Action Replay 'was designed more for the inquisitive game player than the dedicated programmer'. This is simply not true. The Action Replay Mk V has the best machine code monitor that I have seen on-board, and this is a must for any 'dedicated programmer'. I assume in this case you were speaking of a BASIC programmer."

The day I see a fully functional game written using nothing more than a machine code monitor will be the day I trade in my Amiga for an Atari ST (irk!). While a monitor is an important part of any programmer's toolkit, I certainly wouldn't rely on it to code anything more than a short IRQ wedge."

The reason I appear to know so little about the C64GS is basically because I only discovered its existence through a reader sending me some photocopies of a review from an English gaming magazine (Why haven't we heard about it from your section yet, Slarti?). Now go to the back of the magazine where you belong!

POKE at the READy

D. Upton, of Isabella Plains ACT, has a question for us:

"How do I get rid of the READY prompt and cursor after programme execution? I don't want the display to be scrolled or over-printed.

"Keep up the good work. Can you please explain the ways of altering the operating system in more detail, but in a very basic language as a lot of what has already been written is above my level of understanding. I am, however, very interested in the possibilities."

To stop a READY prompt from appearing at the end of program execution, simply use a GOTO statement, like 70 GOTO 70. This creates a loop that can only be broken by pressing RUN-STOP.

The reason why I don't go into great depths to explain things like altering the operating system is simply because not everyone wants the C64 Column to devote six or twelve issues to a single topic. I try to keep the column as balanced as possible - half on programming and half on general information. That's why I only scratched the surface of 'reprogramming the operating system. I was intended to be a bit of fun more than anything. Any more requests?

Printers and Publishing

Jenny McBride, a new C64 user, has some questions.

"1) Is it possible to get tractor runners for my MPS803 printer? (The paper seems to go crooked).

"2) How do I work out what the syntax error is in the line when it comes up on screen?

"3) I am very interested in desktop publishing, and I notice there is a program available of that name. Is it worth buying? Would I be better with something like *Print Shop* or a GEOS program?

"4) I have been reading The GEOS Column over the past three months and feel like I'm reading a foreign language or I missed out on the beginning of the plot. What is it? What are the advantages? Would it work with my printer? With my interest in desktop publishing in mind, could you give me a bit of a run down on what each one does?

"5) I have a few word processing programs like *Textmaster, Easy Script, Write-all* and *Speedscript*. Unfortunately I find these very limiting in some ways. I am a graphic designer by profession, so my interest is more in the look of the document as opposed to the typing of it. Can you recommend a good word processing program where I could:

"a) change the size of the type within the document

"b) change type styles, ie bold, italics etc.

"c) use some graphics as well maybe?

"d) I have have seen a program called *Word Writer*. Would this fit the bill, or is there a GEOS program I could buy?

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"e) Would these be available somewhere like Computer Spot?"

Wow! What a lot of questions! Let's start at the top.

1. You can buy printer-paper aligners from most computer shops and even some stationary shops. These fairly inexpensive devices can do a lot for paper loading and alignment problems.

2. Syntax errors usually mean that you've asked the computer to do something it doesn't understand. The most likely culprit of this is a misspelt word. Check the line carefully for typing errors and any words that are not part of the C64's vocabulary.

3. I'd say *geoPublish* is the best all-round desktop publishing program for the C64. It gives a great amount of flexibility and you can even get your documents printed using a laser printer (contact Laser Mode (02) 888 3329).

4. GEOS is an acronym for Graphic Environment Operating System. It is an alternative operating system where you use a 'mouse' to control an arrow to access functions etc. If you've ever used an Apple Macintosh you'll be familiar with this system. GEOS sells for around $60, which includes *geoWrite*, an excellent word processor, and *geoPaint*, a full-featured paint program. Overall, GEOS is probably one of the best investments you can ever make for your C64.

5. *GeoWrite* would probably fit the bill. It's a little on the slow side, but the sheer simplicity and power makes it all worthwhile. *Word Writer* gives you the same amount of control over your documents, but in my opinion is not a simple to use as *geoWrite*, especially for a new user.

Computer Spot still carries some C64 software. If you have no luck there then Briwall Australia, a mail-order company, carries a large selection of C64 software. Check their advertisement in the ACAR.

Cameron Germein, of Croydon VIC, would like to know the names of the main C64 public domain software libraries.

Well, Cameron, Allan Crouch has been the only one to send me any information on himself. His address is 29 Happ St, Auburn NSW 2144 Telephone (02) 649 4904. He has software from various categories, including graphics, business, education, games, music, word processing etc. Brunswick Publications also regularly advertise in the ACAR. There are others but I haven't heard of them for a while so I won't risk mentioning them.

Tips & tricks

Non-Destructive LOAD "$"

* Ever load in a BASIC program and then want to look at the disk's directory? Try this set of commands: POKE 44,144 then load the directory like normal and list it. To get back to your program, POKE 44,8. All this does is move the start of BASIC to 36865. Care must be taken with large programs, and variable values from a program that has been RUN may be lost, but at least the program is still in memory.

David Burrows
Rye, Victoria

LOADing Odd Files

* To get those files that have a stupidly high block number, save your file like this:

SAVE CHR$(0)+"filename",8

To the casual person, these files appear impossible to load. The only way to load them is with the CHR$(0) added. This can be useful for a main program in some game or whatever, which is loaded with autoboot.

* My second trick is this. To save an auto-run file, all you need to do is add the line:

0 POKE 770,131 : POKE 771,164

to your program. Then you save it like this:

PRINT "[shift+clr/home]" : POKE 770,113 : POKE 771,168 : POKE 43,0 : POKE 44,3 : POKE 157, 0 : SAVE "filename",8

After the program has saved, the computer will lock up. Don't worry, it means that it worked. To test it, simply load it (LOAD "filename",8,1"), and lo and behold, it auto-runs. This routine is easier and quicker than those lengthy programs used for such purposes. Oh yeah, do I win something? (OJ: NO!)

Cameron Germein
Croydon, Victoria

Backup Flip Trick

* If you have a back-up cartridge, it is faster and more reliable to make a nibble copy of, say, *Paper Clip III*, onto a side B of a blank disk, and then putting a frozen version with your loader on side A already configured to your preferences. Then when you boot up, just flip the disk over and you are in the same boat as if you booted in the normal way, then changed your colours and line feeds etc.

Glenn Webster
Bayswater North

Play Audio Tapes on your Datasette

* Here's a program that plays audio tapes in your datasette (singing and all!). It was originally written by Darren Burkey and published in an English magazine called ZZAP! (OJ: The output is quite distorted, but AC/DC fans won't notice the difference!)

```
10 PRINT"INSERT A TAPE AND
PRESS PLAY. HIT A KEY."
20 GET A$ : IF A$=""THEN 20
30 C=0 : FORL=49152 TO 49198
40 READ A : POKE L,A : C=C+A :
NEXT
50 IF C<>5424 THEN PRINT "ER-
ROR IN DATA":END
60 SYS 49152
70 DATA 120, 165, 1, 41, 159, 133,
1, 162, 0, 142, 17, 208, 138, 157, 0,
212,
80 DATA 232, 224, 24, 208, 248,
160, 15, 162, 0, 173, 13, 220, 41, 16,
208, 6,
90 DATA 140, 24, 212, 76, 25, 192,
142, 24, 212, 238, 32, 208, 76, 25,
192
```

Adam Wade
Ridleyton, SA

That's the C64 Column for another month. Remember that as always I want to hear from YOU! Send me your tips, tricks, questions and suggestions care of the ACAR, PO Box 288, Gladesville 2111. Catch you next month.

❑

C64 Graphics & Sound

by Greg Perry

Simple sprite animation

Before the introduction of sprites, animation could only be achieved with a high degree of programming skill. Without doubt, many popular games would be far less enjoyable without animation.

Simple animation is achieved by swapping the sprite pointer between a number of "snapshot" sprite images. Obviously, the more images that are used, the smoother the movement will be.

The following program uses three multicolour images to "walk" a figure across the screen. Look carefully at Lines 180-190; the sprite pointer alternates between data blocks 13, 14, 15, and 14.

Program: ANIMATION

```
10 REM  (C) GREG PERRY, BRISBANE, 1984
100 REM  SIMPLE ANIMATION
110 REM  POKE SPRITES INTO MEMORY
120 FOR I=0 TO 191: READ N: POKE 832+I,N: NEXT
130 V=53248
140 REM  SET TO MULTICOLOUR & X EXPAND
150 POKE V+28,1: POKE V+23,1
160 POKE V+1,100: REM  Y POSITION
170 POKE V+21,1: REM ENABLE SPRITE 0
180 FOR I=0 TO 3:SN=13+I
190 IF I>2 THEN SN=17-I
200 POKE 2040,SN
210 FOR K=1 TO 100: NEXT
220 X=X-2: IF X<00 THEN X=340
230 POKE V,X+256*(X>255)
240 POKE V+16,1+1*(X<256)
250 NEXT : GOTO 180
260 DATA 0,168,0,0,252
270 DATA 0,1,86,0,6
280 DATA 86,0,0,86,0
290 DATA 1,84,0,0,80
300 DATA 0,0,32,0,0
310 DATA 160,0,2,168,0
320 DATA 2,168,0,26,170
330 DATA 0,0,241,0,0
340 DATA 160,0,0,160,0
350 DATA 2,160,0,10,32
360 DATA 0,12,48,0,12
370 DATA 48,0,60,240,0
380 DATA 0,0,0,0,0
390 DATA 168,0,0,252,0
400 DATA 1,86,0,6,86
410 DATA 0,0,86,0,1
420 DATA 84,0,0,32,0
430 DATA 0,168,0,2,42
440 DATA 0,2,34,0,4
450 DATA 37,0,4,168,0
460 DATA 0,252,0,0,168
470 DATA 0,0,160,0,0
480 DATA 176,0,0,240,0
490 DATA 0,240,0,0,240
500 DATA 0,3,240,0,0
510 DATA 0,0,0,0,168
520 DATA 0,0,252,0,1
530 DATA 86,0,6,86,0
540 DATA 0,86,0,1,84
550 DATA 0,0,32,0,0
560 DATA 32,0,2,168,0
570 DATA 2,102,0,20,97
580 DATA 64,0,168,0,3
590 DATA 252,0,10,168,0
600 DATA 10,8,0,12,12
610 DATA 0,12,12,0,12
620 DATA 3,0,12,3,0
630 DATA 60,0,192,0,0
640 DATA 0,0
```

Exercise

1. Change the direction of horizontal movement.
2. Add a movement in the Y direction.
3. Add a "bounce" movement as discussed above.
4. The program does not set any sprite colours but, instead, relies on the default settings. Set a sprite colour and two multicolours.
5. Develop your own animated sprites.

Interaction with background images

Example: Printing text. Sprites can be used with great effect by appearing to "print" text on the screen; the text is simply printed one character at a time while moving the sprite one character to the right.

The following program reads a line of text from a DATA statement and displays it using "pac-man" look-alikes. Three different sprite images are used; two perform the animated "printing" while a third is used to move on and off the screen and for "carriage returns" between lines.

The program is designed so that both the starting line (LS) and starting column (CS) can be readily changed (Lines 110-130, also see Line 310).

Each line is printed in a different colour by the POKE in Line 390 (see Chapter 2) beginning with a light grey (value 12,[<BLU>]).

Program: PRINT TEXT

```
10 REM  (C) GREG PERRY, BRISBANE, 1984
100 REM  PRINT TEXT USING SPRITES
110 CS=5: REM  COLUMN TO START
120 LS=5: REM  LINE TO START
130 LN=LS: REM  CURRENT LINE NO
140 TC=12: REM  TEXT Colour
150 OC=PEEK (646): REM  CURRENT TEXT Colour
160 REM  READ SPRITE DATA
170 FOR I=0 TO 191: READ N: POKE 832+I,N: NEXT
180 POKE 2040,15: REM  SET SPRITE POINTER
190 V=53248: PRINT "[CLR]"
200 POKE V+21,1: REM  ENABLE SPRITE 0
210 POKE V,CS*8+16: REM  SET X POSITION
220 REM  SET SPRITE Y POS TO START LINE
230 FOR I=0 TO LS*8: POKE V+1,I+44
240 FOR K=1 TO 10: NEXT : REM  DELAY
250 NEXT
260 REM  READ TEXT DATA AND DISPLAY
270 READ A$: IF A$="END" THEN 540
280 REM  CE=CS+LEN(A$):REM SET LENGTH OF TEXT LINE
290 POKE V+1,LN*8+44: REM  SET SPRITE Y POS ON LINE
300 REM  SET POINTERS TO SCREEN LINE FOR PRINT
310 POKE 214,LN-1: PRINT : POKE 211,CS
320 REM  POSITION SPRITE AND PRINT TEXT
330 REM   ONE CHARACTER AT A TIME
340 REM  CHANGE SPRITE POINTER BETWEEN
350 REM   SPRITES BLOCKS 13 & 14 FOR ANIMATION
360 FOR P=1 TO  LEN (A$):COL=CS+P
370 POKE 2040,13+(COL AND 1)
380 REM  SET CHAR Colour AND PRINT CHAR
390 POKE 646,TC: PRINT MID$(A$,P,1);
400 REM  MOVE SPRITE IN X DIRECTION
410 GOSUB 600
420 NEXT
430 REM  SELECT SPRITE BLOCK 15
440 REM  SET SPRITE TO UNDER
```

Continued on p64

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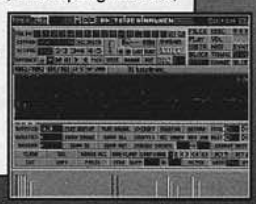

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```
SCREEN
450 REM  AND MOVE TO LHS
460 POKE 2040,15: POKE V+27,1
470 FOR P=LEN (A$) TO 1 STEP
-1:COL=CS+P
480 GOSUB 600
490 NEXT
500 POKE V+27,0
510 REM  INCREASE LINE NO, Colour
AND CONTINUE
520 TC=TC+1:LN=LN+2: GOTO 270
530 REM  MOVE SPRITE OFF SCREEN
540 FOR Y=PEEK (V+1) TO 250
550 POKE V+1,Y
560 FOR K=1 TO 10: NEXT
570 NEXT
580 POKE 646,OC: END
590 REM  SET SPRITE IN X
DIRECTION
600 X=16+COL*8
610 POKE V,X+256*(X>255)
620 POKE V+16,1+1*(X<256)
630 FOR K=1 TO 50: NEXT : REM
DELAY
640 RETURN
650 REM  SPRITE DATA
660 DATA 0,0,0,0,126
670 DATA 0,3,255,192,7
680 DATA 255,240,3,255,248
690 DATA 1,255,252,0,255
700 DATA 252,0,127,254,0
710 DATA 63,254,0,31,254
720 DATA 0,15,254,0,31
730 DATA 254,0,63,254,0
740 DATA 127,252,0,255,252
750 DATA 1,255,248,3,255
760 DATA 240,3,255,192,0
770 DATA 126,0,0,0,0
780 DATA 0,0,0,13,0
790 DATA 0,0,0,126,0
800 DATA 3,255,192,15,255
810 DATA 240,31,255,248,63
820 DATA 255,252,15,255,252
830 DATA 3,255,254,0,255
840 DATA 254,0,63,254,0
850 DATA 15,254,0,63,254
860 DATA 0,255,254,3,255
870 DATA 252,15,255,252,31
880 DATA 255,248,15,255,240
890 DATA 3,255,192,0,126
900 DATA 0,0,0,0,0
910 DATA 0,0,13,0,0
920 DATA 0,0,127,0,3
930 DATA 255,192,15,255,240
940 DATA 31,255,248,63,255
950 DATA 252,63,255,252,127
960 DATA 255,254,127,255,254
970 DATA 127,255,254,127,255
980 DATA 254,127,255,254,127
990 DATA 255,254,63,255,252
1000 DATA 63,255,252,31,255
1010 DATA 248,15,255,240,3
1020 DATA 255,192,0,126,0
1030 DATA 0,0,0,0,0,0,0
1040 REM  TEXT DATA
1050 DATA THIS IS A TEST USING A
SIMPLE
1060 DATA PACMAN LIKE SPRITE TO
INTRODUCE
1070 DATA YOU TO USING SIMPLE
SPRITES
1080 DATA TO PRINT A SELECTED
PIECE OF TEXT
1090 DATA ON THE SCREEN IN
EXACTLY THE PLACE
1100 DATA AND COLOURS THAT YOU
DESIRE
1110 DATA END
```

The sprite can be made to "print" each character by the following sequence:

1. Position the sprite to the screen position where the next character is to be printed.
2. Print one character using a MID statement.
3. Move sprite one column right to reveal the character.

At the end of each line a different sprite image is selected, the sprite priority set to be "under" the screen, then a "carriage return" performed.

A sprite is set to the character position from the relationship between the following:

1. The coordinates of the top left of the visible viewing area are X = 24, Y = 50.
2. Each character is an 8 by 8 pixel matrix, thus the approximate centre of the top left character is X = 28, Y = 54.
3. Each sprite (nonexpanded) is displayed as 24 by 21 pixels and is positioned by the coordinates of the top left corner.

Assuming that the center point of the sprite is 12 pixels right and 10 pixels down from its top left corner, the coordinates required to position a sprite over the center of the first character are:

X = 28 - 12 = 16
Y = 54 - 10 = 44

To generalise, to "cover" a character on any screen line (0-24) and any column (0-39) the sprite coordinates are:

X = 16 + column * 8
Y = 44 + line * 8

Exercise

1. Change the DATA statements to print your own message.
2. Add different sprite colours.
3. Change the starting line and column for the text display.

Example: Eating text. In a similar manner to displaying text, the sprite can be made to apparently "eat" the background screen image.

As shown in the following program, instead of printing a character "underneath" the sprite as shown above, the character is deleted by POKEing a space, screen code 32, into the correct screen RAM position (Line 350).

The sprite "chews" its way through a rectangular area defined by the starting line (LS), the ending line (LE), the starting column (CS) and the ending column (CE). These are set in Lines 110-140 and can readily be changed to "eat" any selected area of the screen image.

Only one sprite is used, but with five different images - two for moving the sprite to the right, two for moving left and one with its mouth closed. Just for a change, the sprite data has been placed in data blocks 250-254, staring at location 16000. Note Lines 170, 180, 310, 320, and 400.

Program: EAT TEXT

```
10 REM  (C) GREG PERRY, BRISBANE,
1984
100 REM EATING TEXT
110 CS=10: REM LEFTMOST  COLUMN
120 NC=20: REM NO OF COLUMNS
130 LS=5: REM START LINE
140 LE=20: REM END LINE (+/- 1)
150 REM LN=CURRENT LINE NO 160
REM READ SPRITE DATA
170 FOR I=0 TO 64*5-1: READ N: POKE
16000+I,N: NEXT
180 POKE 2040,254
190 V=53248
200 POKE V+21,1: REM ENABLE
SPRITES
210 REM FILL SCREEN
220 PRINT "[CLR]";: FOR I=0 TO 998:
PRINT "[+]";: NEXT
230 REM MOVE TO START POSITION
240 POKE V+39+1,7
250 POKE V,CS*8+16: FOR I=0 TO
LS*8+44: POKE V+1,I: FOR K=1
TO 10:NEXT : NEXT
260 REM  MAIN ROUTINE
270 FOR LN=LS TO LE
280 REM  SET SPRITE Y POS ON LINE
290 POKE V+1,LN*8+44
300 FOR I=0 TO NC: IF (LN AND 1)=0
THEN 320
310 COL=CS+I: POKE 2040,252+(COL
AND 1): GOTO 330
320 COL=CS+NC-I: POKE
2040,250+(COL AND 1)
330 X=16+COL*8: REM  SPRITE X POS
340 REM  POKE SPACE TO SCREEN
RAM
```

```
350 POKE 1024+LN*40+COL,32
360 REM  POSITION SPRITE
370 POKE V+16,1+1*(X<256)
380 POKE V,X+256*(X>255)
390 NEXT : NEXT
400 POKE 2040,254
410 FOR I=LE*8+44 TO 255: POKE
V+1,I: POKE V+3,1: FOR K=1 TO 10:
NEXT : NEXT
420 DATA 0,0,0,0,126
430 DATA 0,3,255,192,7
440 DATA 255,240,3,255,248
450 DATA 1,255,252,0,255
460 DATA 252,0,127,254,0
470 DATA 63,254,0,31,254
480 DATA 0,15,254,0,31
490 DATA 254,0,63,254,0
500 DATA 127,252,0,255,252
510 DATA 1,255,248,3,255
520 DATA 240,3,255,192,0
530 DATA 126,0,0,0,0
540 DATA 0,0,0,13,0
550 DATA 0,0,0,126,0
560 DATA 3,255,192,15,255
570 DATA 240,31,255,248,63
580 DATA 255,252,15,255,252
590 DATA 3,255,254,0,255
600 DATA 254,0,63,254,0
610 DATA 15,254,0,63,254
620 DATA 0,255,254,3,255
630 DATA 252,15,255,252,31
640 DATA 255,248,15,255,240
650 DATA 3,255,192,0,126
660 DATA 0,0,0,0,0
670 DATA 0,0,13,0,0
680 DATA 0,0,126,0,3
690 DATA 255,192,15,255,192
700 DATA 31,255,128,63,255
710 DATA 0,63,254,0,127
720 DATA 252,0,127,248,0
730 DATA 127,224,0,127,248
740 DATA 0,127,252,0,127
750 DATA 254,0,63,255,0
760 DATA 63,255,128,31,255
770 DATA 192,15,255,224,3
780 DATA 255,192,0,126,0
790 DATA 0,0,0,0,0
800 DATA 0,13,0,0,0
810 DATA 0,126,0,3,255
820 DATA 192,15,255,240,31
830 DATA 255,248,63,255,240
840 DATA 63,255,192,127,255
850 DATA 0,127,252,0,127
860 DATA 248,0,127,252,0
870 DATA 127,255,0,127,255
880 DATA 192,63,255,240,63
890 DATA 255,252,31,255,248
900 DATA 15,255,240,3,255
910 DATA 192,0,126,0,0
920 DATA 0,0,0,0,0
930 DATA 13,0,0,0,0
940 DATA 126,0,3,255,192
950 DATA 15,255,240,31,255
960 DATA 248,63,255,252,63
970 DATA 255,252,127,255,254
980 DATA 127,255,254,127,255
990 DATA 254,127,255,254,127
1000 DATA 255,254,127,255,252
1010 DATA 63,255,252,63,255
1020 DATA 248,31,255,248,15
1030 DATA 255,240,3,255,192
1040 DATA 0,126,0,0,0
1050 DATA 0,0,0,0,0
```

Collisions

When a sprite collides with another sprite or an image on the background screen, one or other of the two collision registers are set. This is often very important in computer games to tell when a sprite touches another graphics image. We will look at both cases.

Sprite - background collisions

If a non-zero part of a sprite pattern (that is, where the bits are not zero and not transparent) touches an image on the screen, the bit corresponding to that sprite number is set in the sprite-background collision register at V+31. For example, let us assume that sprite 5 has touched a character on the screen. The sprite-background collision register at V+31 will look like the following.

Figure 5-7

Bit #	7	6	5	4	3	2	1	0
	0	0	1	0	0	0	0	0

Bit 5 will have been set. How do we read and decipher this register?

We use a PEEK statement combined with AND and IF statements to take whatever action is required.

```
IF (PEEK (V+31) AND X) = X THEN
[do something]
```

where X is the bit value for the sprite you wish to examine.

Specifically, for sprite 5 (X=2^5)

```
IF (PEEK (V+31) AND 32) = 32 THEN
...
```

or in general terms

```
IF (PEEK (V+31) AND 2^SN) = 2^SN
THEN ...
```

In simple cases, where only one sprite is in use, if a PEEK (V+31) returns a non-zero value, then a collision has occurred.

Let's see how this works in the following example:

Program: S-B Collision

```
10 REM  (C) GREG PERRY, BRISBANE
1984
100 REM  SPRITE-BACKGROUND
COLLISION
110 GOSUB 400
120 V=53248
130 REM  READ AND POKE SPRITE
DATA
140 FOR I=0 TO 62: READ A: POKE
832+I,A: NEXT
150 REM  SET SPRITE POINTER
160 POKE 2040,13
170 REM  ENABLE SPRITE, SET Colour
AND EXPAND
180 POKE V+21,1: POKE V+39,3: POKE
V+29,1: POKE V+23,1
190 REM  SET START POSITIONS AND
200 REM  CLEAR S-B COLLISION
REGISTER
210 X=100:Y=100: POKE V,X: POKE
V+1,X:A=PEEK (V+31)
220 S1=1+2*( RND (0)>.5):S2=1+2*(
RND (0)>.5)
230 REM  BOUNCE SPRITE AROUND
SCREEN
240 Y=Y+10*S2: IF Y<=66 THEN S2=1
250 IF Y>=208 THEN S2=-1
260 X=X+5*S1: IF X<=24 THEN S1=1
270 IF X>=296 THEN S1=-1
280 POKE V+16,1+1*(X<256)
290 POKE V,X+256*(X>255)
300 POKE V+1,Y
310 REM  FLASH TARGET
320 POKE 55296+(R%+1)*40+C%, RND
(0)*15
330 REM  CHECK COLLISION
REGISTER
340 IF  PEEK (V+31)<>0 THEN  GOSUB
360: GOTO 210
350 GOTO240
360 REM ACTION
370 PRINT
```

See you next time ... ❑

Phil Campbell's Entertainment

All the latest news from the world of Entertainment

Virtual Reality Vols 1 and 2

Compilation fever is on again, and here's a good one from Questor. *VIRTUAL REALITY VOL 1 AND 2* features *Starglider 2, Carrier Command, Midwinter, International Soccer and Stunt Car Racer.* What a batch, and they're all included in the pack for $69.95!

Rocketeer

Where Disney leads, Questor follows. Although in this case, Questor and Disney will be side by side in the launch of *Rocketeer.* As Disney launch the movie in Australia next month, Questor will simultaneously release the game - keep an eye out for special deals.

Tie Break Tennis

Here's a new tennis sim that's apparently giving *Pro Tennis 2* a good run for its money. There are nine different strokes, including topspin and slice, lobs and drop shots, you can choose the weight of your racquet and the tension of your strings, and there's an amazing four player option that lets you play doubles with an optional four-joystick adaptor. Sounds like fun! We'll check it out next issue.

More recession busters from Pactronics

Pactronics have extended their range of budget software with the inclusion of titles like *Pacmania* ($14.95), *Face Off Ice Hockey* ($14.95), *Beyond the Ice Palace* ($14.95) *Airborne Ranger* ($24.95), *Baal* ($19.95), *TNT Compilation* ($29.95), *Accolade in Action Compilation* ($39.95), *Loom* ($39.95), *Leisure Suit Larry 3* ($39.95), *Jack Nicklaus Golf* ($39.95) and *Teenage Mutant Ninja Turtles* ($19.95). Then there's *3D Pool* at $24.95, *Stun Runner* at $14.95, and *Afterburner* and *DragonBreed at* $14.95.

Mindscape Releases

Feared by the bad, loved by the good, *Robin Hood* is back. Not just in the Kevin Costner movie, either. Mindscape have just announced the release of *Robin Hood,* a swashbuckling *Populous* style game from Millenium. Game interaction is all mouse controlled, with icons to click and characters to direct around the screen. Other titles due for release by Mindscape this month include *Rodland, Final Blow, Spot, Monopoly, Guardians, Sarakan,* and *Cyber Blast.* Watch for them in your local store!

Hints disk improved again!

Orders keep rolling in for the ACAR Entertainment Hints disk, and now it's been improved *again.* Last month we announced an improved user interface, now it's even better. Adrian Jenkin has reworked the disk so it now boots to a workbench with a colour cycling backdrop and slick looking redesigned screen gadgets. All the files are logically arranged, with a handy text reader and printer included. Some new files have been added, too, so it's well worth a look. To order, send a stamped, self addressed envelope, a blank disk and a cheque for $5.00 to Phil Campbell, PO Box 23, Maclean, NSW 2463.

Mindscape Excalibur winners

Another great response to our Mindscape Competition! So who are the five lucky winners? Just let me rummage through the letter pile to find out! Mmmm... first out is Anthony Bucco, of Baulkham Hills NSW. Anthony correctly answered the five tricky questions, so a copy of *Spirit of Excalibur* is on the way. Next comes Ryan Hunt, of Blackwater, Qld, then Mr D. Ross of Ulverstone, Tasmania, C. Suhr of Leopold, Vic, and N. Di Silvio of East Fremantle, WA. Congratulations to you all. And before I finally say "good knight," the answer to question (e) was of course "The Waltons." ❑

MINDSCAPE *STORMBALL* COMPETITION

Five copies of *Stormball* are just waiting to be won, as usual, courtesy of Mindscape. This hard hitting action game left our reviewers gasping for breath - it's another one of those 21st Century sport-sims that requires sheer guts, speed and determination. Naturally, the competition should require the same set of skills, so it's about time we had another word puzzle.

Here's what you have to do. Make as many words as you can out of the letters in the title *Stormball*, using each letter only once (except of course, for "L" which appears twice in the original word!) No proper names will be accepted. No way out acronyms will be accepted. In fact, no devious and desperate diversions of any kind will even be considered. Just real words. Put your entry in an envelope and send it to Mindscape Competition, c/o Phil Campbell, PO Box 23 Maclean NSW 2463. Clearly write your final tally of words on the back of your envelope, together with your name and address, and get them to me by the end of the month. ❑

Keep those letters rolling in, folks, 'cause what we've got here is the best entertainment forum in the Southern Hemisphere. Maybe even the world! Have your say, ask your questions, grumble, maybe even offer some praise...

Perplexed by Prince of Persia

Dear Phil, Congrats for doing such a good job with the entertainment section - keep it up. The *Hints Disk* was an excellent idea and has proved invaluable. Hope you appreciate the renovations.

Unfortunately, I have a major problem with *Prince of Persia* that is causing me mega-frustration. I can't get past the big, fat babunga of a guard near the start of level six. Is there a machine gun or mortar hidden away somewhere that I've missed? This guy can really move and he sends the little prince guy to his doom every time with a depressing aaaargh-splat! Please ... does anyone know how to beat this guard?

Thanks in advance, and thanks for a top section.

Doug Murray
Hawthorn, Vic

Ed: *Thanks for the disk, Doug, and for your comments. Just to put other readers in the picture, Doug ordered our ACAR Hints Disk recently. It was a bit of a hotch potch, and you needed a wordprocessor to access the files. No longer! Doug has indexed all the hints, added a text reader and printer, and now the disk is entirely self contained. Adrian Jenkin has done likewise, so now there are* two *versions to choose from. If you want a copy, send a cheque for $5.00, a blank disk and a stamped, self addressed envelope to:* PHIL CAMPBELL, PO BOX 23 MACLEAN NSW 2463.

Rattled by Rainbow Islands

Dear Phil, I'd like to take advantage of your hints disk offer. I hope it includes details of how to get past the spider at the end of level 4 of *Rainbow Islands 2*. Elementary stuff to you, I guess, but as a "mature" new owner of an Amiga 500 I've just about had it. By the way, I thoroughly enjoy ACAR, even if it tells me how much I have to learn. Here's to the computer generation,

Mrs Rosemary Levack,
Kippa Ring Qld

Ed: *I've got some good news and some bad news. First, I don't think the hint you need is on our disk - yet. But the good news? Now that we've printed your letter, some kind hearted reader is sure to send some advice. Keep watching these pages!*

C-64 user sees red

Dear Phil, I have been a regular reader of your mag for approximately 5 or 6 years. Admittedly, I have missed a few issues, but not many. I can still remember when it was just *The Australian Commodore Review*, and it's my opinion that you there at ACAR have forgotten just who it was that made you what you are today. It was the C-64 and 128 owners that the mag was originally aimed at. And it was them who made your mag the success that it is today. I think it's totally unfair and downright despicable that you should forget these people.

In your August issue you made a comment which made me see red. In answer to a letter from Edmund Tate, you said this:- "The day has to come when you take the leap to Amiga land." Why? Why does that day have to come? Because you say so? It may be okay for you, and others that can afford the changeover, but you seem to forget that many ordinary people simply can't afford an Amiga. Then there are those, like myself, who remain loyal to the C-64. Little by little the Amiga is taking over your mag, and I don't think it's right. It should remain half and half at least - *remain true to your origins*. Why are your competitions for Amiga owners only? Don't deny it! I've checked out all this year's issues - only May had prizes for the C-64. Why? Do you just want to forget the little people, or what?

Philip Mayer,
Glen Innes, NSW

Ed: *Wrong, wrong, wrong. The thing that has made ACAR the success it is today is moving with the times! Check out your facts, Phil - the mag was originally aimed at VIC-20 users, with some coverage of the newfangled Commodore 64. I should know - I was one of the original VIC-20 writers. In fact, I started out in issue number 2. And to be honest, I had more fun with the VIC-20 than any machine since. But facts are facts. These days, there are very few new games released for the C-64, and that's reflected in our competition. Whenever games come in both formats, we mention the fact, whether in the competition or our reviews. When we run a competition with prizes for both formats, only very few C-64 users enter. Why? Because these days, you guys are the minority of our readers. Sorry, but that's the way it is. But just to show we're not mean-hearted, and that we're not forgetting the little people, and that we're not totally unfair, and that we're not selling out our original supporters, we'll keep trying to support you as much as we can.*

Warhead worries

Dear Phil, Can you help me with *Warhead*? I have no idea how to save games and the instruction book simply does not tell me. On-screen instructions say not to use the original disk when saving, and any other disks I use give an "error when saving" message. Is the disk corrupt, or am I just an ignorant beginner? Please help. On another matter, I recently heard of a cheat for *Starglider 2*, something about typing "mission from God" - can anyone help? Finally, why not a sequel to *FA/18 Interceptor*? Of all the flight sims around, I think it must be a favourite with many players.

Mick Thompson
Forbes, NSW

Ed: *Well, Mick, my guess is you're just an ignorant beginner! Seriously, though, your Warhead problems sound strange. Sure your drive is okay?*

Otherwise, there may be a trick that some other readers can enlighten us with. From memory, the Starglider 2 tip is to type "I'm on a mission from God", the well worn line from the Blues Brothers movie. What I can't recall at the moment is whether you include the spaces. Try it. Finally, I totally agree with your assessment of FA/18 Interceptor - it's still my favourite flight sim on the Amiga. Unfortunately, though, programmer Bob Dinnerman has moved on to bigger and better things in the PC-compatible world - namely, Jetfighter II. It's superb!

One way to get famous

Dear Phil, I am Atul Prasad. This is the first time I have written a letter to your section, so I hope you publish my letter. ACAR should be praised for taking notice of C-64 owners. I could really see a difference between the March and April issues. Keep up the good work and I will keep buying the mag. I have also enclosed some scores for the Hall of Fame - I could do with some fame.

Atul Prasad

Ed: *You wanted fame? You got it! Thanks for your comments.*

Virus alert

Dear Phil, I have been reading the "ACAR" for some time now and it's a fantastic magazine. But there's one problem - not with the magazine, but with Mindscape. Mindscape do a good job for the competition in the magazine. And I myself was a *Days of Thunder* winner. But here's the problem: I bought the Amiga game *The Ultimate Ride*, which was very good but when I checked it with my virus killer it said that the Master disk had the "Northstar Virus". Shocked at this I sent the disks away with a note explaining what was wrong.

Some weeks later they came back and a note saying "The virus was put there on purpose but anyway these are new disks. P.S. The virus is a virus killer." Still with the virus killer on the disks I played them, thinking to myself "Ha - this is a virus killer".

My problems had just begun when I checked my Workbench master disk. It had the virus. And everything on the disk was going bananas. You'll probably just say that "You should not leave your master disks unprotected." That's not the point. If there was no such thing as a virus I could leave everything unprotected!

So can somebody tell me, 1. What is the Northstar Virus, and 2. Has anybody else had similar problems?

Laetone Gravolin

Maclean NSW

Ed: *Anyone got any ideas? Hopefully Mindscape will be able to clarify things a little, but it seems to me that a self-replicating "virus killer" is still a virus! Meanwhile, always protect your master disks!* ❑

Immortality

or "How to live forever in your favourite games"

Hello readers, and welcome to another exciting episode of Immortality! Yes, more tintillating tips from the magazine with the strangest columnist in the world, SLARTIBARTFAST!!!

Loadsa tips this month, so on with some tips from The Happy Hacker! There, now your grovelling has been rewarded with your name in lights (well, black lettering...).

Summer Camp

Whoops, this is actually the latest release from Thalamus, not Creatures! I must say that Creatures II is looking good! Jolly good show, Apex!

Okay, get a high score and enter CALAMITY on the charts to get infinite lives.

Teenage Mutant Ninja Turtles

I have heard that this game is not very good at all. I have no idea what this does, as I do not have the game to test it on, but if you have it, play the game and type in PABLO, making sure that you have the CTRL key pressed when you type P.

Myth

System 3 and Thalamus have to be the best producers of quality C64 games in the world, and this is one of System 3's best. I've heard that the cartridge version is even better, but we may never know in Australia. For full weaponry press A and ? while playing.

That's the end of the newish tips for this month, now for the usual allotment of golden oldies from Adam Wade...

Wizball

Lurvely game this, especially for its time! Designed and programmed by Sensible Software, once masters of the C64, now lazing around enjoying the fruits of their labour. When is the sequel going to be released I wonder, and will it have a worthwile end sequence? Mysteries of the universe, young laddie, mysteries of the universe...

In the bonus stage, move the ol' wiz to the bottom left corner of the screen and hold down fire to control the cat. If you have full weaponry then nothing can touch you which means loadsa lurvely bonus points!!!

Nemesis

This game is definitely not the best shoot-em-up of all time, but if you ignore the average-ish graphics it makes for a fun game. On the title screen hold down shift and space until a C appears. You can now play the game with complete invincibility...

Kentilla

Hmmm, I could say that I've seen this game and it was really amazing, but I'd be lying. Nope, I have never even heard of this game. Well if this game does actually exist you can play the music by loading the game, resetting, and typing SYS 53236...

Driller

Another Freescape 3D adventure game from the people at Incentive.

Pretty slow on the C64, but still an outstanding achievement on a computer not made for filled vectors...

Load the game, reset and type SYS 3603:POKE 54296,15 to play the tune.

Platoon

I do not think that the game conveys the same message as the movie, really. Whereas the movie was all about the unglorified horrors of Vietnam, the game seems to be a mindless kill 'em up. Well, I suppose it wouldn't have sold otherwise, and besides, I liked it...

Okay, load the first section, then on the title screen press O to switch off the music. Then start the game. When 'Entering the combat zone' appears, press M to switch the music back on. Now you can listen to the title tune while you play (kill) instead of the music that accompanies the level...

Aliens

Hmmm, there is an American and a UK version of this game, and I'm not sure which one these tips are for. Well, here are the codes to get to the later levels anyway..

2727H
6106H
20216
1000A
5443F

Equalizer

This game is VERY similar to *Wonder Boy*. Well, to skip from one screen to the next, press the C key and tap RESTORE during play. ❑

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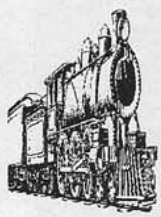

AMIGA

ACTION FIGHTER 132,530 R. Baker
ALERT 359,700 R. Baker
ARKANOID 1,052,610 S. Walter
AMAZED 130,500 C. Turnadge
BAAL 134,250 Davo
BATTLE COMMAND 334,200 P. Cain
B. SQUADRON 99,999,999 (c) A. Burbidge
BEYOND ICE PAL. 67,626 (c) C. Turnadge
BIO CHALLENGE 29,000 A. Sanderson
BLOCKOUT 85,281 S. Lark
BOMBJACK 236,430 S. Walter
BUBBLE + 276,850 (c) C. Toyne
BUBBLE BOBBLE 1,925,070 R. Baker
BUGGY BOY 103,350 D. Thompson
CAR-VUP 484,122 H. Hacker
CHASE HQ 5,504,010 A. Augostis
CONT. CIRCUS 4,815,390 Dolly
CRAZY CARS 86,547,220(c) A. Wade
C. CARS CHAL. 3 Billion M. Summers
CRYSTAL HAMMER 43,847 D. Thompson
CYBERBALL 475,000 D. Marsh
DENARIS 53,900 P. Evans
DIABLO 1,490 T. Johnson
DRAGON NINJA 246,400 R. Matthews
DOUBLE DRAGON 124,630 J. Knight
EDD THE DUCK 5,820 A. Gormly
ELIMINATOR 246,570 G. Munro
EMERALD MINE Level 23 (d) T. Johnson
FLOOD 6,455 E. Beaton
GEE BEE AIR RALLY 307,466 K. Andy
GIANA SISTERS 56,567 M. Keath
GODS 80,277 A. Gormly
GOLDEN AXE 40.1 A. Gormly
HYBRIS 1,826,075 E. Beaton
IK+ 189,900 D. Carsburg
IMPOSSIBLE MISSION 66,380 D. Unwin
INDIANA JONES L.C. completed P. Nicoll
INDI. 500 38.53sec/233.58mph Dolly
INERTIA DRIVE 18,790 T. Johnson
KARATE KID II 54,000 M. Summers
KLAX 4,396,040 H. Hacker
LEATHERNECK 86,500 S. Crosland
LIVE AND LET DIE 96,520 M. Beaton
MAJOR MOTION 50,658 O. Webster
MENACE 996,481 K. Andy
MINDWALKER 306,214 P. Schumacher
MOUSETRAP 71,977 D. Rich
NARC 180,800 D. Carsburg
NINJA MISSION 35,141 A. Sanderson
NITRO 261,000 (c) D. Carsburg
N. Z. STORY 546,695 E. Beaton
ONSLAUGHT 16,179 A. Gormly
OP. THUNDERBOLT 53,000 A. Gormly
OPERATION WOLF 776,350 W. Diaz
OUTRUN 26,331,122(c) B. Moen
OFFSHORE WARRIOR 626,345 J. Booth
PACMANIA 3,250,140(c) A. Burbidge
PINBALL MAGIC 332,390 T. Chilcott
PINBALL WIZARD 464,730 P. Ryan
PIONEER PLAGUE 35,412 K. Sooby
PLUTOS 299,000 Davo
POPULOUS 347,990 M. Summers
PORTS OF CALL $206,552,000
POW 612,865 D. Thompson
RAINBOW IS. 9,999,999 (c) T. Johnson
RAMPAGE 120,900 M. Summers
RICK DANGEROUS II 25,470 A. Gormly
ROBOCOP 375,520 Michael Summers
ROTOX 183,050(c) F. Doherty
SHINOBI 664,372(c) W. Diaz
SIDEWINDER 904,350 S. Elsley-Eades
SILKWORM (Heli) 4,079,300 (c) Iceman
SILKWORM (Jeep) 622,500 D. Everton
SKWEEK 2,403,880 E. Beaton
SPACE ACE 22,140 N. Clarke
SPACE HARRIER 210,855,250 Maverick
SPEEDBALL 17,650 A. Burbidge
STARWARS 5,722,822 C. Mingos wave 33
STRIDER 175,350 N. Young
SUPER CARS 17 races Maverick
SUPER HANG-ON 25,042,850 D. Worthy
SUPER OFF-ROAD $350,000 A. Gormly
SUPER WONDER-BOY 87,190 J. Stubbings
SWIV (HELI) 369,230 I. Nicholls
SWIV (JEEP) 75,390 A. Gormly
SWORD OF SODAN 403,500 S. Begley
TEEN.M.N.TURTLES 546,600(c)J. Leeken
TEST DRIVE 131,076(c) J. Noglet
TEST DRIVE 2 659,992 M. Summers
TETRIS 35,920 M. Summers
TETRIX Level 232 S. Lark
THUNDERBLADE 336,520 R. Matthews
THUNDERCATS 522,300 S. Southurst
TOWER OF BABEL 25,934 (c)Stephen Lark
TURBO OUTRUN 100,260,819 M. Mantle
TURRICAN 1,735,100 (c) A. Jenkin
TV-SPORTS F.BALL 189-0 D. McKinney
TWINWORLD 24,640 C. Love
TYPHOON 54,255 O. Webster
VIRUS 16,576 M. Summers
WHIRLIGIG 28,210 N. Allen
WINGS 426 kills J. Main
WONDER BOY 291,350 Maverick
XENON II 1,107,280(c) M. Porta
ZOOM 67,051 S. Jones

COMMODORE 64

ALLEY CAT 1,101,150 S. Mitchell
ALTERED BEAST 251,250(c) A. Blanch
BATMAN 473,230 J. Nunes
BATMAN-THE MOVIE 1,087,080 M. Bradley
BANGKOK KNIGHTS 39,600 J. Smith
BOMB JACK 521,820 A. Wade
BUBBLE BOBBLE 6,963,930 (c) D. Gavrilovic
BUGGY BOY(c) 153,000 A. Wade
CHASE HQ 11,366,900(c)H. Hacker
DOUBLE DRAGON 35,820 (c) A. Prasad
D. DRAGON II 255,190 N. van Heeswyk
DRAGON BREED 496,870 H. Hacker
FAST BREAK 136 to 9 C. Byrne
GHOSTS AND GOBLINS 28,520 A. Blanch
GHOULS & GHOSTS 87,050 (c) A. Blanch
GIANA SISTERS 121,390(c) H. Hacker
GRYZOR 211,200 G. Aslett
H. MARADONA Level M N. van Heeswyk
HAWKEYE 207,650 A. Wade
IKARI WARRIORS 267,800(c) Iceman
INT. KARATE 139,300 P. Millward
LAST NINJA II 21m31s (c) A. Wade
MIDNIGHT RESISTANCE 28,540 (c) D. Pike
NEMESIS 1,157,300 S. Mitchell
OPERATION WOLF 374,900 A. Wade
OUTRUN 15,848,550 G. Aslett
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PAPERBOY 103,100(c) J. Nunes
POWERDRIFT 840,290 G. Aslett
QUE-DEX 639 C. Byrne
R-TYPE 1,890,210 A. Prasad
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RAMPAGE 120,300 G. Aslett
ROBOCOP 237,170(c) A. Wade
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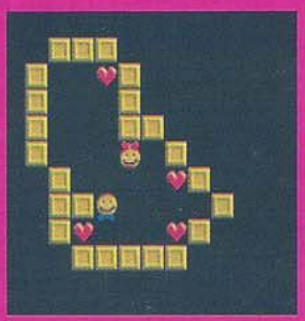
STREET FIGHTER(c) 168,900 A. Wade
SUPER CYCLE 223,040 A. Gormly
T. RENEGADE 330,450 C. Byrne (clocked)
TEST DRIVE 36,144(c) J. Nunes
TEST DRIVE II 249,543 (c) A. Batroc
TETRIS 25,706 (326 lines) A. Batroc
THUNDERBLADE 1,734,040 T. Morrison
THUNDERCATS 269,500 J. Wright
T.M.N TURTLES 878 A. Wade
TRAZ 54,560 D. & S. Upton
UNTOUCHABLES 70,230 S. Watford
WIZBALL 607,420 (c) S. Mitchell
WONDERBOY 560,320 H. Hacker

Scores followed by (c) indicate that the game has been completed.

The Power sees you in the role of Max, a romantic blob who will stop at nothing to impress the love of his life, Mini. Max must travel through 50 screens of puzzling arcade action before he is finally reunited with his beloved Mini.

When the game first loads, the menu screen displays the game options. On the left of the screen is the option's name, on the right is the current setting and in the centre there's a rectangular button used to alter the setting. The game starts with the control cursor on Max's beloved Mini. After a second or two, the cursor moves to Max. As soon as this happens play begins. Max must now find the quickest route enabling him to collect all the hearts scattered throughout the play area. Once he has collected them all the level is completed by guiding Max to Mini. As they touch, they disappear and its on to the next level.



The screen is again separated into three parts - the timer, which rapidly decreases during play, below it the number of hearts you must collect to complete this level and under this, your score. There are various objects on the screen which help you including three different coloured stones - red, green and blue - which cancel each other out if they touch.

An added feature of *The Power* is a level editor. After you have completed the fifty levels, you can make up your own to baffle your friends. The editor has everything you need to create some incredibly difficult levels.

When you load the game, you will hear the number one hit song "The Power" by Snap. It is brilliant. After listening to the song you can load levels off a disk, go to the level editor or to the instructions, change the input device you want to use, or change the level of difficulty. *The Power* is a two-player game, so you can really rub it in when you beat a friend. There are two levels, tactical and arcade. In tactical mode move strategically, in the arcade mode just fly around picking up hearts. A good feature is the password mode. So far I have only got about five passwords, and all of them have been weird. Words like COWBOY, and OOPSUP are just two.

In conclusion, *The Power* is a game that would only interest beginners. The actual game play leaves a lot to be desired. The graphics are OK. The sound is the best part of the game but the addictiveness is just not there. The professionals of the gaming world wouldn't find it worth while. Really the only thing going for this game is the excellent music. It just hasn't got what it takes in the games world.

JG

Ratings:

Sound:	96%
Graphics:	85%
Addictiveness:	45%
Overall:	**60%**

Distributed by:
Pactronics
02 748 4700
RRP Amiga $49.95

Trivial Pursuit

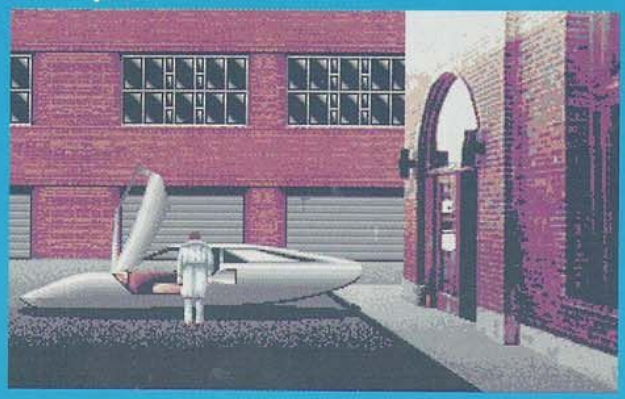
Kuala Lumpur is the capital of which country? Does sound travel faster in cold air or warm air? Questions like these, and much harder ones are included in *Trivial Pursuit-Genius Edition.*

The computer version of *Trivial Pursuit* is a faithful reproduction of the original game, with some enhancements and extra features making it more fun to play. Firstly there is no dice, you use a dart to throw at one of the six numbers. Secondly, there is a score chart which keeps a record on how many questions were asked, which categories they came from

A steaming layer of fog hangs over the city. It's late. Wednesday night. The weather reports says the next few days will get warm. My body and brain are trying to talk me into a few days vacation when the office door swings open. The silhouette in the doorway tells me this isn't the pizza man. My eyes follow curves up to where the lady's silken blonde hair kind of clasps her cheek near her eyes, which are exotic, not blue exactly, deeper than blue, sad and dangerous. If ever a women is trouble, she's it.

"Are you Tex Murphy?" she asks. "That's me," I answer casually. As it turns out, the dame wants me to investigate her father's suicide. Did he really jump? Or was he pushed?

This is *Mean Streets*, and you're Tex Murphy, Private Investigator. Not just any P.I. - to help in your investigation of Carl Linsky's apparent suicide, you've got the latest Lotus Speeder, a 21st century skycar packed with heavy duty computing power. On top of that, you've got a few leads and a lot of brains.



Mean Streets is a top game. It pulls you in right from the start. The music is excellent, the graphics are good and it's immediately addictive. As the game starts, you're at the controls of your speeder. Your first job is to chase up your leads. Find witnesses, and ask them the right questions and they give you codes and other info to help you on your way.

To get anywhere, you have to program your nav computer by entering a four digit code. Then just switch on the auto pilot and sit back and wait till you land. On arriving at your destination you can ask people about such things as Passcards, passwords and insurance. You also have a secretary and an informant. These two dames will help you a lot. Your informant, though, is expensive - she won't talk until you grease her palm.

Mean Streets has got a bit of everything. You can go bounty hunting, arcade action style, or play in a patient search-and-question style like an Adventure game. Overall, it's great. It will keep you on your toes - and stuck to your computer - for a long time.

JG

Ratings:

Graphics:	79%
Sound:	84%
Gameplay:	95%
Overall:	**90%**

Distributed by:
Pactronics
02 748 4700
RRP Amiga $19.95

and whether they were answered correctly or not.

Third, there are music questions. Yes that's right, the computer will play a piece of music and ask you to name it, the musician, or the country whose national anthem it is. This I think is one of the best features of the game. To think that all that time playing the boardgame I was missing out on music!

Trivial Pursuit on the computer is a great game. The only real problem with the game is there are too many English based questions. Questions like "Who earnt the most money from football in 1988?", and so forth. This question couldn't be answered by any of my family members. There were no other problems with *Trivial Pursuit* so I would recommend it for the Trivia buffs. But if your heart's set on shoot 'em ups, give this game a miss.

JG

Ratings:

Sound:	72%
Graphics:	70%
Addictiveness:	87%
Overall:	**80%**

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RRP Amiga $19.95

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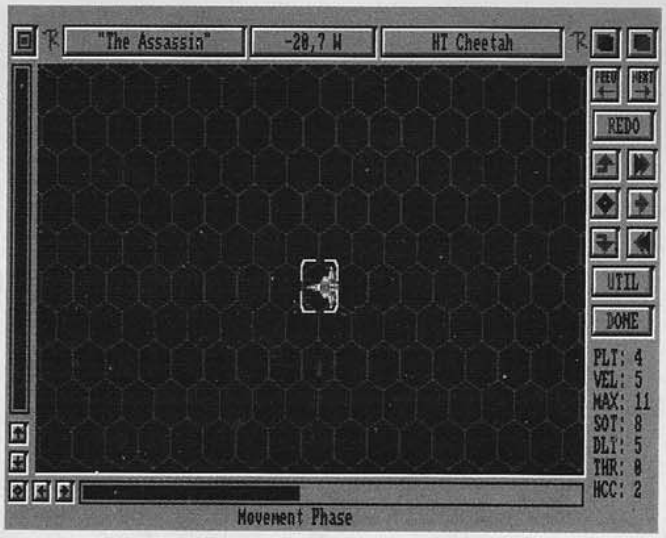
VISA *(Kickstart 2.0 Rom not included)

ANDREW PHANG signs up with the Renegade Legions to check out the latest in genre-bending software. He's not pleased with what he finds...

RENEGADE LEGION® INTERCEPTOR®

After making a forceful impact into the role playing market with its Advanced Dungeons & Dragons line of software, SSI snapped up the rights to develop a game based on the highly successful - *Renegade - Legion* pen - and - paper system in 1989. It has taken two years, but finally *Renegade Legion* has made it to the Amiga software shelves.



The game is a mix of elements of strategy, role playing, and wargaming, and though this blending of genres might sound promising, you will soon discover that this potential has not been realized.

A brief history of the plot: In the 69th century, the universe is controlled by an evil galactic empire (the Terran Overlord Government, or TOG). You are a pilot and squadron leader of the resistance movement, an alliance of humans and aliens under the Commonwealth banner. In fact, you belong to the Renegade Legion, the most famous and deadly of the Commonwealth forces.

After loading the game, you find yourself in the "Squadron select" screen. Here you can add new pilots (male or female, alien or human, and with a selection of colour portraits to choose from), check on the status of your spacecraft, and Load or Save your game. Click on the Missions button once you've assembled your group, and a random Mission (from the possible 14 listed in the manual) will be selected. A briefing of your mission (shown as a memo) will be displayed, and then it's straight into the game map.

Gameplay is quite simple: once your ships are launched, simply destroy all your enemies! The missions listed in the manual include such exotic scenarios as protecting an undercover agent from unfriendly pursuers (in other words, kill the guys following him), taking photos of enemy space stations (again, a bonus if you destroy them) and preventing your enemies from attacking your own space station - naturally, by killing them.

Your squadron starts off from the left of the "computer game board", and the enemies start off from the right. Accelerate, meet the foes in the middle, and shoot it out. That's all there is to it.

Distributed by:
Electronic Arts
075 963 488
RRP Amiga $59.95

Ratings:

Graphics:	65%
Sound/Music:	50%
Gameplay:	60%
Overall:	**59%**

What of those other aspects? Well, if you're a regular role player, perhaps you will recognize the "win a battle and complete a mission to get more prestige points and therefore buy better weapons and ships" part of the game. Wargamers will certainly find the "hex" grid option on the game map familiar. As for strategy gamers, I lied. There's only one strategy you need to know - get your ships out there and slay, slay, slay!

Graphics are below average, with very rudimentary icons depicting your spaceships on the screen. You have a choice of backgrounds in which to wage war (ranging from dots to hexagons), but this is nothing more than decoration. Only the pictures of the various pilots (when you select one to represent your character), and the full screen depictions of the various spacecraft, are worth any mention.

Sound effects are very limited (only explosions and laser beams can be heard) and there is no music at all. You can use either the keyboard or mouse to move your spaceships, but the latter is preferred for choosing other tasks (like weapons selection, or displaying ship status). The buttons are neatly ordered around the screen, and you won't have much trouble with that.

Perhaps the only noteworthy feature in the Amiga version of *Renegade Legions: Interceptor* is its packaging. Included with the game (which comes on a solitary disk) is the Reference Card, a short but well written manual, and a set of 24 Fighter Cards, with the statistics and pictures of all the starships you will encounter. The Fighter Cards also serve as copy protection. Sigh. If only the actual game had been given as much care as the packaging.

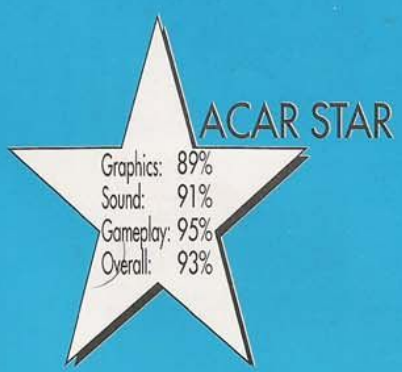
Renegade Legion: Interceptor could have been a good role playing game, or a good strategy game, or a good wargame. But SSI, in muddling up the three distinct styles of computer gaming in *Interceptor*, has managed to make a hash of it. A classic example of a product trying to appease every taste of the games-buying public, but satisfying none. ❑

Andrew Gormly **thinks he's in seventh heaven! He's found a game that's so good that it's almost divine...**

Gods

Over the past few years, most software companies have been rather sane with naming their games. Good, sensible names like *Robocop* and *Speedball* are common. Naturally, every now and then some odd-ball thinks up *Turrican* or the like. But before now, there was never a game with such an unearthly title as this one. The game, of course, is *Gods*.

The program which everyone has been talking about has finally been released. It has set previewers and game-testers on fire, leaving us - the public - slavering in anticipation. Once again I hear you ask: Is *Gods* as good as they say it is? The answer: YES!



Still smoking due to its hasty departure from the production line, I quickly slotted *Gods* into the disk drive - the little light on the front beamed with pleasure as the game loaded. And loaded. After about one and a half minutes I was starting to suspect that I had been given a dud copy when suddenly the profile of a helmet was replaced by the credits from Renegade and the Bitmap Brothers. And a credit to them this game is.

All right folks, here's the basic storyline. You control Hercules, the Greek equivalent of Arnold Schwartzenegger. Good ol' Herc explores a variety of dungeons, visiting the homes of evil creatures who would like nothing better than to see him overwhelmed and destroyed.

Now before you all shrug *Gods* off as "just another typical beat 'em-up", let me tell you that this one is different. It entails a lot more than simply killing off monsters. Instead, the exceedingly generous gods have suggested that Hercules do a few jobs for them. In other words, you have to complete a task - returning three items to a crypt, for example - before you can advance to the next level. The only problem with that is that they don't tell you what the task actually is. You have to experiment with certain items and switches to figure it out.

The revolutionary thing about *Gods* which causes it to ascend into the heavens, however, is the unique player monitoring system at the heart of the game. This little feature actually follows your progress through the game and responds accordingly - so if you're a master at the joystick, nimbly leaping around picking off monsters, you'll soon find that there are a lot more of them popping up from unseen portals. If, on the other hand, you're blundering around the first level getting hit by simple creatures and missing all the necessary artefacts then the game system will probably give you a helping hand with a few extra lives or energy top-ups thrown in every now and then.

Graphics and sound are excellent - especially with the extremely realistic sound effects such as groans of pain, explosions, grating noises as spikes move in the floor. Scrolling once again has been completely perfected with Hercules at the centre of the screen at all times - even if he's sprawled against a stone wall you can still see all the rubble on the other side!

Gameplay, however, is the essence of *Gods*. To get past the deadly floor spikes which leap up out of the cobblestones at all stages of the game, you have to select the correct combination of the positions of a few switches embedded in the wall. Flick the wrong one and the monsters fall upon you left, right and centre. Flick the right one - the spikes disappear and if you're very lucky you might get showered with gold as a bonus as well.

There are also a number of puzzles which you must solve to gain a particular item, or finish a level. I will give no hints but only say that these mindbenders will test your sense of logic to the utter extreme. And yes, you guessed it, there's the good old end-of-level guardian to fight every so often - if you make it that far!

Gods is arguably the best combination of platform game, shoot 'em-up and strategy battle ever to reach your Amiga. A godly game in the most divine sense of the word. ❑

Distributed by:
Mindscape
02 899 2277
RRP Amiga $69.95

Just when you thought it was safe to go into hospital, *Phil Campbell* steps into his surgical gown and starts slicing ...

Life & Death

Life and Death is no laughing matter. In fact, it's deadly serious. But I just can't help it. The patient in Room 2 has gone to join the celestial choir, and I'm chuckling right out loud.

Mind you, I'm not normally so insensitive. And the fact that the patient is just a computer simulation should be cited in my defense. It all started with that picture on the box. The blood spattered hands of a surgeon reaching down to pick up the brain that has somehow fallen on the operating room floor. Oops! Mind you, only someone with a seriously warped sense of humour would find something like that at all funny.

I might also be feeling faintly ridiculous sitting in front of my Amiga wearing a genuine surgical mask and gloves. They were included in the package, so what else could I do? I put them on. Sure, it makes finding the right keys a little more awkward, and I might mistype a fwe wrods, but at least my hands are sterile. And in a game like *Life & Death*, that's important.

Life & Death is a medical simulation - a game in which you play the part of the surgeon, making life and death decisions at every moment. You'll talk to your patient, you'll poke and prod, you'll read the charts, order x-rays, ultra-sounds and blood tests. And you'll even ... ugh... operate. Blood and gizzards everywhere.

Come with me on my morning rounds. There's a patient waiting in Room 4. A 25 year old male, complaining of acute abdominal pain, generalised weakness and dizziness. Not half as bad as he's going to be feeling in a few minutes.

With a click of the mouse button we move in for the physical examination - his bare abdomen is exposed, and we can prod around with the mouse. Hit a sore spot, and the patient produces a range of satisfying digitised grunts and groans. In this case, there's pain on both the left and the right, which my training tells me is a sign of appendicitis. It's off to the operating theatre.

At the side of the screen there's a tray of surgical instruments - everything you'll ever need, including a scalpel, forceps, scissors, clamps, and retractors. Above that there's a drawer containing syringes of Lidocaine, Dopamine, Atropine and Antibiotic. The EKG machine is perched on top of the drawers, and the patient's abdomen lies exposed on the other half of the screen.

Here's where the fun starts - at least for the surgeon. Unfortunately, on my first attempt I made a minor oversight. I forgot about the anaesthetic. Sorry, pal. My second operation didn't go too well either. Somehow I injected Lidocaine instead of the regulation pre-op antibiotic. Well, you live and learn. Unless of course you're the patient.

The sad truth is, even with the help of Mrs Campbell, a highly trained nurse, I still haven't managed to successfully complete a simple appendectomy. Mind you, we're getting close. We've cut, clamped and cauterised our way through the dermal tissue and the subcutaneous layers quite nicely. We've inspected and we've injected. But all to no avail. Even if there aren't fatal complications, the Head Surgeon has a habit of storming in muttering comments about "Jack the Ripper" and taking me off the case.

Graphics in the Amiga version of *Life & Death* are reasonable, though not nearly as blood-curdling as you might expect. And sound effects are limited. But the gameplay will keep you coming back time after time. Once you've mastered the appendectomy you move on to bigger and better things, like grafting Aortic Aneurysms. Top fun, and a long term challenge - just as long as they don't run out of room in the hospital morgue. ❑

Ratings:
Graphics: 72%
Sound: 75%
Gameplay: 88%
Overall: 81%

Distributed by:
Mindscape
02 899 2277
Amiga $59.95

MICHAEL SPITERI'S Adventurer's Realm

Stuck in an adventure game? Send your problem to Adventurer's Realm. You'll receive a prompt reply if I can help out, otherwise the problem will appear among these pages. Hints, tips, views and rumours are also gladly accepted, so write away to:
Adventurers Realm, 12 Bridle Place, Pakenham, Vic 3810

If you find roleplaying games (such as Pool of Radiance, Azure Bonds, etc. are more your sort of field, then you can obtain help from Kamikaze Andy (alias Andy Phang), at:
Realm's RPG Dungeon, P.O.Box 315, Maddington, WA 6109

Andy does not have hint sheets, and stamped addressed envelopes are a must whoever you write to! Island BBS, on (03)7423993 is Realm's official bulletin board, where you can leave your adventure problems, or chat to other adventurers, among many other things. Available 24 hours a day!

The Official Adventurers Realm Hint Book is out now at a newsagent near you. Only $9.00 for detailed hints for over forty adventure games. It is selling well, so get your copy before it's too late.

CLEVER CONTACTS

Commodore 64 fans might like to write to David Stacey (3 Tigress Drive, Hallett Cove, SA, 5158) to swap hints, tips and tricks, for adventure, arcade, or virtually anything.

Two new clever contacts this month...

Shayne Cooper, 43 Raye Street, Tollard, Wagga Wagga, NSW 2650. Shayne can offer hints and maps for *Alternate Reality*: The Dungeon.

Gus Wrethman, 31 Anderson Street, Mortdale, NSW 2223. Gus can offer help in *Bards Tale 1,2,3, Dungeon Master, Chaos Strikes Back, Might and Magic I & II, Eye of the Beholder, Dragon Wars, Alternate Reality* (city and dungeon), *Phantasie III, Deja Vu, Pirates, Tass Times, Lemmings*, and parts of *Legend of Faerghail* (he gave up in disgust!) Remember to always enclose a stamped addressed envelope when writing to a Clever Contact. To all the Realm's Clever Contacts - a big thank you for an excellent job! ❑

TOP TEN

Top 10 Role-playing Games
(Amiga & IBM)

1. Eye of the Beholder
2. Heart of China
3. Rise of the Dragon
4. Death Knights of Krynn
5. Spirit of Excalibur
6. AD&D Collectors Set
7. Zeliard
8. Powermonger
9. Might & Magic 2
10. Might & Magic 1

Top 10 Adventure Games
(Amiga & IBM)

1. Kings Quest V
2. Space Quest IV
3. Leisure Suit Larry III
4. Quest for Glory II - Trial By Fire
5. Secret of Monkey Island
6. Conquests of Camelot
7. Codename Iceman
8. Kings Quest Pack (1,2,3)
9. Elvira
10. Betrayal

(The above top ten charts kindly produced by Pacific Microlab, - Fountain Gate Store, Narre Warren, Victoria).

Free Hint Sheets

Choose up to four hint sheets from the list below, enclose a stamped self addressed envelope and post to:
Free Hint Sheets, 12 Bridle Place, Pakenham, Vic 3810

Zak McKracken, Maniac Mansion, Indy, Zork 1,2,3, Bards Tale 1,2,3, Guild of Thieves, Jinxter, Pawn, Fish, Uninvited, Deja Vu, Hampstead, Hitchhikers Guide, Faery Tale, Borrowed Time, Never Ending Story, Dracula Pt2, Hobbit, Adventureland, Pirate Adventure (Scott Adams) + Clever Contacts list sheet. ❑

The Dungeon by Kamikaze Andy

3 Year Old Dungeon

Last month, Adventurers Realm celebrated its 5th anniversary. Well, this month, The Dungeon - the Realm's roleplaying section - celebrates three years of helping roleplayers and bringing updated news on new RPG releases (and there have been a lot of them recently!). This month Dungeon owner Kamikaze Andy has some hot news on some fantastic new releases - so check it out!

History is created this month, as the Dungeon turns three years old! Bring out the party hats, clear the dusty cobwebs, and put on that *Saturday Night Fever* LP! All together now, "Night Fever...Night Fever..."

Not only is October significant for the Dungeon's Third Anniversary, it's also the month that the long awaited Amiga version of *Ultima VI: The False Prophet* is finally released! Sporting full 32 colour graphics, mouse and icon control, and a revised 3D-overhead perspective, *Ultima VI* will surely satisfy all novice and seasoned role players.

Origin Systems also has a few other surprises up its sleeves, including the release of its superb *Wing Commander* (on Amiga and CDTV format, by the end of the year). Next year, we can look forward to two other "Ultima" style RPGs, *The Savage Empire* and *Martian Dreams*. Then there are plans for Amiga versions of Ultima Underworlds (a complete 3D Dungeon Master type of Ultima!), and *Ultima VII: The Black Gate* by late 1992, amongst others!

SSI New Releases

SSI, a strong Amiga supporter, plans to release *Pools of Darkness* by Christmas. It's the final chapter of the AD&D RPG series (the other games in the series being *Pool of Radiance, Azure Bonds*, and *Silver Blades*), and pits your party against the forces of evil with the entire *Forgotten Realms* hanging in the balance.

If you happen to enjoy the computer AD&D series, look out for *Gateway to the Savage Frontier*, the first chapter in a brand new Forgotten Realms saga. Explore the Lost Peaks and sail the Trackless Seas in your mission to discover ancient artifacts and prevent evil invaders from invading the land. Both *Pools of Darkness* and *Savage Frontier* are Amiga only releases (at this stage).

SSI has also announced plans for a whole bunch of other role playing games, including the sequel to *Buck Rogers* (due in early 1992), a new AD&D product called *Citadel of the Black Sun*, yet another AD&D game called *Darksun*, and finally a horror based game which uses the *Eye of the Beholder* interface, and allows you to hunt vampires and werewolves. All will appear on Amiga, though C64 versions are possible.

New World

Might and Magic III: Isles of Terra is currently under conversion at New World Computing, and will surface sometime in late December. Featuring full screen 3D graphics, a menu and icon system, and lots of mazes to explore (thank heavens for automapping!), early previews of the product look really amazing. Be prepared for quite a lot of digitized sounds too!

Another New World product, *Planet's Edge*, is a futuristic RPG where you must guide your party in search of the Earth (which has mysteriously disappeared from its orbit!). Finally, New World will publish *Faery Tale Adventure II* early next year, since they picked up the rights from MicroIllusions. The original designer, David Joiner, is also behind the sequel.

Sierra's Plans

Sierra has been busy in the past few months, with the release of the Amiga conversions of *King's Quest V, Space Quest IV, Rise of the Dragon,* and *Heart of China*. By Christmas, they plan to have the "updated" versions of *Space Quest I* and *Leisure Suit Larry I* out (featuring new 32 colour graphics and the new mouse interface). Their plans for next year are also impressive, with titles including *Conquest of the Longbow* (sequel to *Conquest of Camelot), Police Quest III: The Kindred*, and *Leisure Suit Larry V*. Quite a few of these titles look set to appear on CDTV too!

Indiana Jones Again

Lucasfilm has confirmed Amiga versions of *Indiana Jones and the Fate of Atlantis* (set just after the *Last Crusade*, and featuring more Nazis, and an old flame in Madame Sophia Hapgood), and *Monkey Island II: LeChuck's Revenge* (with an improved interface, including a graphical inventory display!). Both games will include new animation techniques (including scaling and video rotoscoping), and multiple pathways for solving puzzles. February 1992 is the current date for the release of both products.

Interplay plans to speed up its Amiga conversion processes, with *Star Trek: The 25th Anniversary* game due out in January. Featuring lots of digitized footage from the classic TV series, the game contains both role playing and simulation elements. Other titles planned for next year include *Lord of the Rings II: The Two Towers, Dragon Wars II* (very late next year!), and *MeanTime* (extremely late next year!!!). At this stage, it doesn't look like any CDTV or C64 versions of these products will eventuate.

There are many more Amiga RPGs coming out in the next 3-6 months, including (quick breath here) *Captive II, Corporation II, MegaTraveller II, The Black Crypt, Enemy Within, Knightmare*, and more. I'll try to cover these titles in greater depth next month, so until then, keep on meditating on those meaningful mantras, "Night Fever Night Fever you know how to do it..." ❑

General Hints and Tips

King Quest V
- The tailor requires a prickly golden thing from the haystack. Get him that, and he will give you something to wear.
- If you keep dying from thirst in the desert, check out an oasis.
- Trouble with bandits? Hide behind the rocks near the entrance to the temple.

Space Quest IV
- Trouble with slime? Use the jar.
- If a monster is giving you trouble, shove a cylinder down its throat. (Push the button on the chair to release yourself).

Codename Iceman (Starting out)
- Read the sign at the hotel.
- Show your ID to the man in the big black car.
- Make sure you get the correct ID from the guard on your way out.

S101: Sorcerers Get All The Girls
- Make sure you check out both parties!
- The surfboard is the key to travelling to many lands.
- Cast the Reveal Hidden Information spell on a certain part of the surfboard.
- If the shark eats the spell box, order it at the restaurant, and decompose it! (If you have the correct spell).
- There is still one more soul to save! Check the painting on the wall.

Loom
Hints courtesy of Stanley Liu, Rowville, Vic
- Casting spells is like driving cars - reverse is just as important.
- To see things in the dark, there is none better than the owl.
- Gypsy magic will fix the gang of four.

Uninvited
- Use the NoGhost Spray to rid yourself of Scarlet O'Hara.
- Ghosts are scared of spiders!
- Ghosts also don't like candles!
- Ghosts despise amulets!

Zak McKracken
- Make sure you have the crayon and wallpaper when you travel to Mars.
- Use a broom to find some extra power source.
- Tape the sound of a door opening to get through the middle door.
- Disguise yourself to recover artifacts from the aliens.

Realm's Bargain Hunter

If you know of any super adventure bargains, write to the the Realm quickly!! Meanwhile, the Realm watchdog noticed some bargains at Pacific Microlab - Fountain Gate (Vic). These include: Infocom's *Leather Goddesses of Phobos* - $15, Infocom's *Arthur* - $20, *Uninvited* - $15.

New Releases

New releases from Ozisoft include *Space Quest IV* for the Amiga, *Cruise for a Corpse, Last Ninja 3, Gauntlet 3, Terminator 2, Flight of the Intruder*, and *Heart of China* - all new releases for the Amiga. Should be available by the time you read this!! ❑

Problems, Problems & more Problems or the Troubled Adventurers Dept.

The following adventurers are desperately stuck neck deep in a range of adventure games, and they require help quickly!! Veteran adventurer David McKinney is stuck in *Captive*. He is on the second mission, and is currently stuck on the third base (Phoopet), where he cannot find any passcodes and thus cannot explore anymore!

Another veteran adventurer, Mark Healy, is stuck in *Bloodwych*. He is aimlessly wandering around a maze that has an inscription on the wall which reads "Welcome Back". Any maze experts willing to tackle this one?

Then we have Daniel Marti, who is currently stuck in *Legend of Faerghail*. Daniel is continually putting a staff in a hole "obviously made for it", but nothing happens.

Ray Huntley is stuck in two roleplaying games, *Battletech* and *Champions of Krynn*. Ray writes... "I'm looking for the cache which the scientist tells me is southwest of his hut, but I cannot find the cave. Secondly, after defeating Myrtani and escaping, most of my items are taken and I'm dumped outside Kernen. Is this the end of the game, or is there more I have to do?"

Luke Morris of Gosnells in WA would like any hints and tips for *It Came From The Desert (I and II)*. ❑

Help, Help & more Help or the Smart Adventurers Dept.

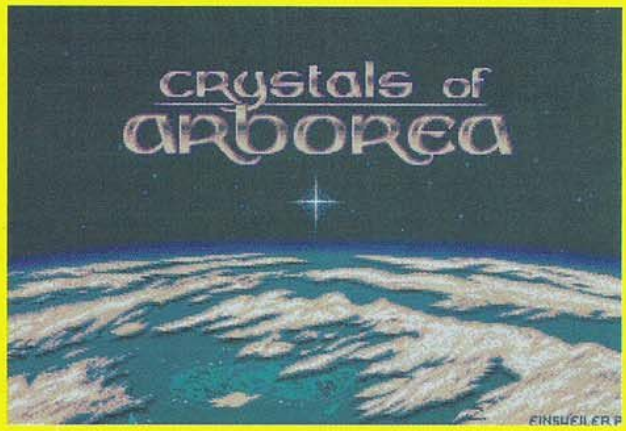
If you were stuck a few months back, then the solution to your problems might be here this month. Thanks to all who wrote in with hints!

Game: Battletech
For: Brian Jewitt (August Issue)
From: Kamikaze Andy
Help: To get past the map room you need to select the correct planets on the map. Perhaps you've seen this map before, like on a certain page in the MANUAL! I do hope you have the manual...

Game: The Jetsons
For: Christine Hill (August Issue)
From: Kamikaze Andy
Help: On Robotopia, visit the volcano (extreme north of map), then visit ancient ruins in the jungle, and the Cloud Kingdom. Use the jetpack and portable nuclear reactor from the MegaMall to move around.

Game: Buck Rogers
For: The Loser (August Issue)
From: Kamikaze Andy, Richard Fay (Proserpine, QLD), and Wayne Phillips (Pakenham Upper, VIC).
Help: In the smashed spaceship, quickly locate the operating room (in one of the upper levels) and rid yourself of the plague. Then start exploring the ship. Or for greater detail.... Once in the spaceship, use the stairs on the air shaft to get to deck 9 and fix SCOT. Then to deck 6 for the medical info, then to deck 0 for the Arigon Gas. Go to deck 3 to connect the gas and then deck 1 to override the system. Once the ECG's die, you have 30 seconds to reach deck 10 and shut down the computer. Finally, just kill the remaining two ECG's and you are ready for the next mission.

Save the world? Again? Yes, but this time it's the watery world of Arborea, and *Andrew Baartz* is just the man for the job...



You are Jarel (no relative to Superman, I'm sure), last prince of the Sham-nirs. Your mission, should you choose to accept it, is to lead your team of six companions in a quest to find four crystals and to restore them to their respective towers.

If you fail to complete this task and the black elves of Mongoth find the crystals, the world will die (and it's not in a very good shape as it is). So once again, it's up to you to save the world from the forces of evil. A noble pursuit, but I can't help but long for the day when one real hero emerges to save the world - once and for all - so to speak. Nevertheless, at the moment, this is a job for ... Jarel. If you should succeed, harmony will be restored and the world will live - at least for a little while.

The Crystals of Arborea is a strategic role - playing game. Although the object of the mission is known from the outset, it's designed to have a long "game-life". The variation in the team (that you choose and design) and other little twists will challenge you for some time.

The story behind the chaos and confusion on Arborea is a tale in itself. You see, when the gods created Arborea, they also placed four crystals - representing earth, air, water and fire - in a pattern that ensued that the cosmic harmony would remain in balance. But, from out of the darkness Mongoth, the fallen angel, cursed the gods who banished him from the heavens (sounds familiar, doesn't it).

He swore revenge and set out to create discord and violence on Arborea. Mongoth corrupted the once hard working orcs and took power over the black elves, the rulers of the Crystal world. The Sham-nirs, your people, were the losers in the whole scenario, hated by both orcs and black elves. Eventually, the gods woke up to what had happened to their world. In their fury they drowned the anarchy in a huge flood. (Where was Noah when we needed him?) Now only the Island of Arborea remains above the waves. And this is where your task begins ...

Silmarils, the publishers of *Crystals of Arborea*, always produce great story - games with sophisticated graphics and sound that complement the atmosphere of the game. Your hero and his band are controlled in a two-dimensional map mode or in a three-dimensional "it feels like I'm out there with the boys" mode, played from the mouse or the keyboard.

It took me a while to get the hang of the game, but that's because I never read the instructions. All the instructions are on the disk, but accessible during game play, which is just great. Everything I needed to know was there and very clearly set out.

As you wander on your quest, some contacts you make will offer assistance and others will offer their swords to your body. Your party has a diversity of gifts and attributes. There is an elven prince, that's you, and a choice of magicians, rangers and warriors. The attributes are the usual role-playing game qualities. Warriors are armoured swordsmen. The rangers are essentially archers.

At first, I regretted having magicians in the party, because during combat they seemed powerless. But as time went on they developed some awesome powers. My favourite spell is that of "treachery". It turns an enemy character against his allies in the battle. "Teleportation" spells are pretty handy when you're in a spot of bother, too.

The battles are played out on a two dimensional grid, blow by blow. You can flee from the battle at will, but it takes a while to find your scattered party, regroup and set about the quest again. At one stage I wasn't sure if I'd left one behind or whether he had been killed in the battle, as the rest of us fled. And be warned: should you get too close to victory, Mongoth himself will come and attack you.

In summary, *The Crystals of Arborea* is a great role playing adventure game with all the realistic flare you expect from Silmarils. ❑

Distributed by:
Mindscape
02 899 2277
RRP Amiga $69.95

Feel like some addictive action? Join *Ken Simpson* as he goes digging for new seams of adventure in ...

Prospector

I know it's been said many times before. But it's true. Often the simplest games are the best. While *Space Invaders* by today's standards is clunky and dated, there is still an excitement and challenge about it. Its very simplicity is the challenge. Like *Tetris* really - a simple concept elegantly implemented makes a heck of an addictive game. A couple of years ago on the Amiga there was a game called *Boulderdash* in which a little miner ran around digging holes, avoiding falling rocks and collecting jewels on his way

ever higher and further into the mazes. I made it to level 32 before I eventually gave up because my disk wore out.

Prospector is like that. An upmarket *Boulderdash* with a few tricks and turns to make it interesting and challenging in much the same way as the original was. In *Prospector* you are in a maze - an underground one of course, hence the name. Your task is to collect balloons - I don't know why balloons - without being either crushed by falling rocks, as you tunnel around them, or squished by flying Zeppelins - don't ask ... I don't know!

You start off with two prospectors, Herb and Pip. These two little fellas are your ticket out of the mazes and with two at least you have a fighting chance of finishing each maze. There are a total of fifteen different mazes, the simplest being Olaf's Warm Up. Simplest is a bit of a relative word. With the rocks, the Zeppelins and a counting down clock it is not the easiest thing in the world to finish. Eventually I figured out that the two little fellas had to do some teamwork. They start out from different points but need each other to finish the maze. It took me a while but I wasn't going to let it beat me. Thankfully the control of the Prospectors is absolutely simple, with either cursor keys or joystick.

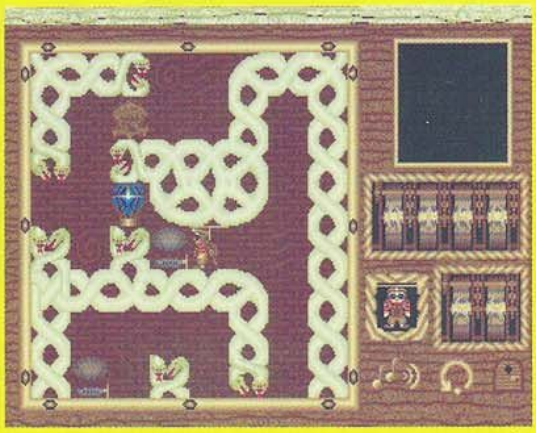
The big trick to the maze is that you can't see it all. Each time you move you see a part of it and as you move you get little bits painted into a small map picture in the lower part of the screen. Alternatively, scattered around the maze are four fragments of a map with, you guessed it, a quarter of the maze on each one. If you can spare the time to collect these they can be of some benefit.

There are some problems to overcome too. There are 'Power Fields' which only allow movement through them in one direction and there are often numbers of them all in a row thus barring movement through some passageways. There is no way through them unless you come at them from the right direction. These do not show on the map. There are also 'Decoy Balloons' which are indistinguishable from normal balloons but can have rather nasty consequences.

I found that the gameplay was very addictive. Despite the relative simplicity of the idea the actual play was challenging in terms of both strategy and tactics. Not a challenge to master the controls nor a challenge to master the intricate rules, just a challenge of mind versus puzzle versus the clock.

There are other positive features to this game. Firstly it multitasks! Secondly, it is hard-disk installable. Thirdly, it is not copy protected on the disk, though it does need a manual password. And finally, you can save your high score each time and enter any maze at any time. In other words, you don't have to be stuck on the same level forever because you can't figure out one stupid puzzle. There is also a construction set so you can make up your own mazes when you get tired of the fifteen they supply.

In case you haven't guessed, I like this game. It is simple yet quite clever and doesn't require hours to get



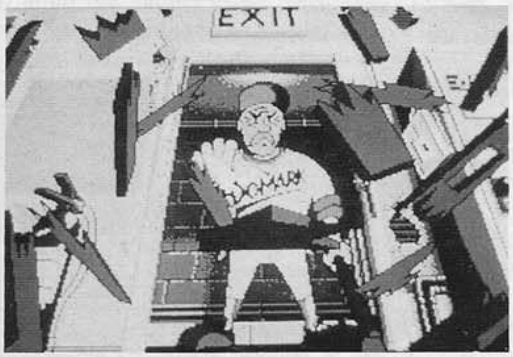
anywhere. I would highly recommend it for anyone with fond memories of Rockford. ❑

Ratings:	
Graphics:	70%
Sound:	70%
Gameplay:	80%
Addictiveness:	85%
Lastability:	80%
Overall	**80%**

Distributed by:
Pactronics
02 748 4700
RRP Amiga $12.95

Batter up! DAVID GLOVER gets on his baseball gear and heads for the ball park to play...

RBI-II Baseball



"Take me out to the ball game....." So says the old American song. Well, here's your chance without even leaving the comfort of your favourite spot in front of the Amiga.

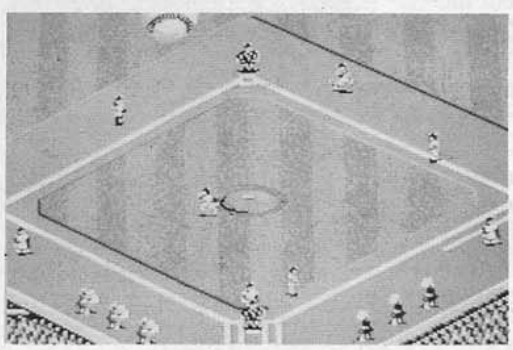
RBI-Two Baseball is a baseball-sim. Yes, folks, a game that attempts to recreate before your very eyes all the rules, action and strategies of the real game. (Well, that was the intention anyway!)

Published by English software house Domark, *RBI-Two* was originally written by Tengen on the PC and C64 and subsequently converted to the Amiga. The trouble is I think we may have lost something in the translation.

The game certainly looks impressive enough. Graphics are detailed, bright and clear and the sound is to say the least atmospheric. The reverberation of the crowd combines beautifully with that spine-tingling, sweet "thwack" as the ball is sent screaming from the hickory (or is it aluminium these days?) Sounds and pictures combine well at the end of each play too: the Wurlitzer - style American razzamatazz pounds out as the illuminated scoreboard shows animated replays of the most recent action.

Okay, so the game looks good and sounds good - what about the gameplay? This is where *RBI-Two* strikes out. This is a very difficult game to master in the One Player mode against the computer - not because I'm a lousy baseball player (which I am by the way), but because the manipulation of the game controls is so darn hard. The only control medium available to you is the joystick. With it you are supposed to be able to do all manner of things on a baseball diamond: pitch, bat, catch, field, run bases, throw to bases ... Phew!

Whether your team is pitching or batting, the screen perspective remains the same: looking straight over the shoulder of the catcher at the pitcher. It gets a little boring on your own over a nine or ten innings game that can take as long as an hour or more to complete. The only change of perspective occurs when the ball is hit and suddenly a view of the entire diamond appears allowing you to field or catch the ball - hopefully!



At the pitching mound there's a fair degree of flexibility in the type of pitch you can make. Tilting the joystick at various angles combined with judicious use of the fire-button allows a variety of "deliveries", including fast balls, slow balls and curve balls (no spit balls, however). At the plate when it's your turn to bat, joystick variations allow you to move away or closer to the plate, as well as allowing a full swing or a bunt.

Timing here is absolutely crucial - it's usually more miss than hit. As you would expect, the game options allow two players to confront each other in the stadium (two joysticks required). It's a much better game this way: the computer opponent in the One Player option is simply awesome! Despite my best fast curve ball, the spheroid is sent with sickening and monotonous regularity hurtling meteor-like into the back bleachers: a HOMERUN! My turn at the bat is equally demoralising; I do well just to put bat on ball, and even then it is usually called FOUL. (I lost my first game against the Amiga 45-1 and the coach looked suitably displeased).

A better time is had when you have a human opponent, especially if it's another mug like yourself. This is definitely the way this game should be played. Documentation is a bit of a worry. There's lots of it, but it is repetitive and downright confusing. Most of the commands specified for the Amiga relate only to the PC version and are therefore meaningless. Oh, by the way, for those of you who have bought this game or are thinking of doing so, by trial and error I discovered that the correct keystroke to bring up TIMEOUT/OPTIONS during play is 'P', while <Shift> will manually display full field perspective. No thanks to the manual here.

The Verdict: For die-hard baseball fanatics and those who want to complete their collection of sporting sims only. Much more enjoyable in Two Player mode. Mind you, at the current bargain basement price, it's probably worth a look. ❑

Ratings:

Graphics	70%
Sound	75%
Gameplay	64%
Overall:	**73%**

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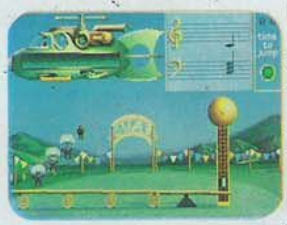

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